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ABSTRACT

This study was an attempt to examine and discuss university finance issues in Ontario, Canada, within the broader context of higher education policy and to present data on trends and the impact of recent changes on Ontario universities. Multiple sources of data were used for the analyses. Higher education policy in Ontario has become increasingly viewed as a subset of provincial economic policy rather than a component of social policy or broad educational policy. Major policy initiatives for higher education seem to have become component parts of macro-level (cabinet-level) approaches to economic development. Ontario is characterized by limited capacity or organizational responsibility for policy development on the part of the government ministry responsible for postsecondary education, and Ontario appears to lack a systematic approach to higher education policy. Tuition fees in Ontario are among the highest in the country, and recent government policies have divided academic programs into those with fee levels regulated by the government and another category in which the institution has much greater discretion in establishing fees. There is some evidence that students are beginning to consider costs, rather than the academic reputation of the university, when they choose a university. In Ontario, privatization of universities sometimes means the transformation of a publicly funded program to a self-funding program, and it sometimes refers to the establishment of new institutions to provide greater access to education. Allocations from the province's SuperBuild fund suggest that the government expects public institutions to accommodate the expansion of student demand in Canada and that the government is encouraging the restructuring of existing public institutions. An appendix contains a glossary. (Contains 7 graphs, 5 tables, and 150 references.) (SLD)

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CENTRE FOR HIGHER EDUCATION RESEARCH AND DEVELOPMENT

RESEARCH MONOGRAPHS
IN HIGHER EDUCATION
Number 5

UNIVERSITY FINANCE
IN ONTARIO

Research Monograph
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UNIVERSITY FINANCE IN ONTARIO

by

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UNIVERSITY FINANCE IN ONTARIO

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November 2000

FOREWORD

The Research *Monographs in Higher Education* series reflects a central mandate of the Centre for Higher Education Research and Development, that of fostering and disseminating research related to postsecondary education. A chorus of commission reports and policy statements in recent years has lamented the dearth of solid research available to those attempting to study and manage the enormously expensive and complex enterprise of Canadian higher education. The Centre for Higher Education Research and Development has made this case itself in its briefs to such commissions; and it is attempting in its own programs and activities to do what it can to remedy the situation and to respond to what has so clearly been identified as a national need.

In that respect, we are particularly pleased to be able to play a part in the dissemination of this study undertaken by Dan Lang, Dawn House, Stacey Young, and Glen Jones of the Ontario Institute for Studies in Education of the University of Toronto. There is no postsecondary issue of greater urgency to university systems and to policy makers and governments, provincial and federal, than that of finance – in part because virtually all of the other issues with which they are grappling – from access to technology – revert in part at least to questions of finance. Despite the seeming geographic focus of the study, **University Finance in Ontario** will be of use and interest to anyone interested in the general issue. The authors have done an excellent job of synthesizing the extensive formulae to tuition structures and so provide a theoretical base that may be used for thinking through policy and strategy in any setting. The specific application of this theory is ultimately made to Ontario; but the main structure of the study will be of use and value anywhere. The writers are to be further commended on a collective writing style that puts a potentially impenetrable body of theory into a form easily understood by a general readership. Given the critical importance of the issues involved, that ability to inform and engage the full range of interested and affected parties is of particular value. **University Finance in Ontario** will not only help those engaged in policy development and implementation, but will also make a significant contribution to the public understanding and discussion of a topic that affects every citizen.

Alexander D. Gregor, PhD
Series Editor

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INTRODUCTION

Like other universities and colleges in Canada, Ontario universities are public institutions in the sense that their largest single source of revenue are various publicly funded operating grants. The second largest source for most institutions – tuition fees – is to a considerable degree determined by government and, through student loan programs, capitalized by government. For these reasons, discussions of university finance have tended to focus on the size of annual operating grants and on policies that govern tuition fees.

University presidents in Ontario, either individually or through their umbrella organization, the Council of Ontario Universities, make annual calls for additional government support. Provincial governments make annual decisions about the level of that support, and a brief, often public, debate ensues surrounding the degree to which the decision addresses the needs of Ontario universities. Since recent government policies have allowed for marked increases in tuition overall, and with particularly significant increases for certain academic programs, the public discussion of university finance has expanded to include such important issues as tuition fee levels, student assistance programs, and student loan default rates.

While the level of attention that university finance issues receive in the media and other public forums appears to have increased over the last decade, and in the last few years in particular, there has been relatively little attempt to place recent changes in university finance arrangements in a broader context, to analyze patterns of private financing, or to look at how public policy in this sector is determined. The objective of this study is to take up these questions and offer a broad analysis of university finance in Ontario.

The research findings of the study are reported in four major sections. The first focuses on public funding policy for higher education - what it is and where it comes from. In this section relevant research literature on policy development in higher education is reviewed and assessed, and the evolution of public policy for higher education in Ontario examined. The second section focuses on tuition fees and the public and private benefits of higher education. The third examines the connections between public policy and public funding, the patterns of private financing, with particular emphasis on tuition fees, and the related issues of privatization and marketization in higher education. Since a common method of analyzing university funding issues is to compare levels of support provided by different jurisdictions, the fourth section discusses the methodology associated with selecting appropriate comparators (peer selection) so that the findings associated with this form of analysis can be more meaningful. The study concludes with findings and implications for the future.

Research Design, Data, and Limitations

The study places the trends and implications of university finance policy in Ontario in a wider public policy context. The study focuses on the period from 1987 since that year brought major modifications to the allocative funding formula, including the development of funding "corridors" designed to stabilize the share of operating support allocated to each institution. The study begins by reviewing the literature on university finance and public policy for higher education in order to understand better how others have addressed some of these research questions. This review then informs a discussion of higher education policy in Ontario within the broader context of the international research and studies. In addition to published research literature, the study also identifies and reviews relevant reports from other jurisdictions that either are comparable to Ontario or have influenced Ontario. The review of the literature provides both a theoretical context for the study and a source of data on broader policy and funding changes in higher education.

Reports and documents from Ontario represent a second major source of data for the study. This material provides an indispensable means of clarifying recent government policies and understanding the publicly stated rationale for higher education policy during the last decade. The documents include publications and reports associated with the Ontario government, as well as those produced by other groups and organizations.

The quantitative analyses presented in this report draw on data from three major sources. The Council of Finance Officers - Universities of Ontario (COFO - UO), produces an annual financial report that includes institution-specific and Ontario aggregate data on revenues and expenditures based on common definitions. These reports have been published by the Council of Ontario Universities every year since 1971 and represent the most accurate source of financial data on Ontario universities. In addition, to COFO-UO, the Ministry of Education and Training provided data on total revenue by university from all sources.

The second source of quantitative data is the Association of Universities and Colleges of Canada (AUCC) which provided access to the raw data from university submissions to the annual *Maclean's* survey. Each year Canadian universities that participate in the *Maclean's* survey complete a questionnaire for the magazine and provide a copy of this raw data to AUCC. While *Maclean's* uses these data in order to rank Canadian universities, component parts of the dataset could be and were used in this study to examine certain changes and relationships that are not considered or reported in the annual rankings process.

The third source of quantitative data involves an analysis of reports associated with the University of Toronto's admission surveys. The University of Toronto has periodically surveyed students accepted for admission to that institution since 1978. While there are certainly limitations associated with using admission survey data from a single institution, this is simply the best source of data on student perceptions of why

certain admission decisions were made. Moreover, although the survey was conducted by a single university, respondents to the survey, first, were the single largest group of applicants in the province; second, were from several institutions in addition to the University of Toronto; and, third, were able to apply to the single widest range of programs available in the province (and indeed in Canada). The data set allows for a longitudinal analysis of admission and student choice responses involving a fairly large sample (with a sample size that changed by year of survey but with generally over 3,000 respondents annually). While these studies were designed and conducted by the University of Toronto, it is important to note that the sample population included students who were accepted by the University of Toronto and chose either to attend that institution or another institution, including institutions outside Canada.

In order to confirm our understanding of higher education policy and obtain feedback on our analysis of university finance and policy development, the study included a significant number of discussions with current and past government officials, including senior civil servants to the deputy minister level as well as elected officials to the ministerial level. These were not research interviews in the technical sense, but were instead candid, wide-ranging, and highly informative discussions that clarified certain issues, ensured the reasonableness and realism of certain findings within the context of the public information that was available about them, and sometimes provided entirely new information.

The study represents an important contribution to an understanding of university finance in Ontario and to some degree in the Canadian public sector generally. There were, of course, other questions and issues that also could have been usefully addressed but for which no publicly available data were at hand. For example, while it was possible to obtain data on tuition increases in Ontario during the relevant time-period and to use existing data sources to examine certain types of relationships that involved those increases, it was not possible to address the impact of tuition increases on student accessibility since the increases had not been in place long enough to support statistically reliable observations and conclusions. As those data become available, further studies may build on this study.

WHAT IS POLICY AND WHERE DOES IT COME FROM?

This study assumes a rather broad understanding of what "policy" is, following mainly Lovell and Gill's (1997) interpretation of policy as a projected program of desired objectives and the means to achieve the program. The actions of governments, however, sometimes belie their declarations of intent. Therefore policy must also be understood to involve the decisions the government takes as well as the reasons that it gives for taking them, along with the effects and actions that policies engender, whether or not those effects and actions were intended.

It therefore is important to distinguish policy research from policy analysis. According to Goodchild *et al.* (1997) *policy research* is the study of how policy is developed and what it means for current practice. *Policy analysis*, on the other hand, is

understood to denote the factors that are considered when designing policy. The first examines the formation of policy and is concerned with processes that are visible on the surface. The second examines the formulation of policy and is more concerned with underlying or latent explanations that influence the decisions taken in policy design and implementation (Wildavsky, 1997). Following Ripley (1997), these latent explanations may be clustered into three groups:

- *The environment outside government*, which includes such features of greater society as prevailing ideology, public attitudes and socioeconomic culture.
- *The environment inside government*, which refers to the structure of government, its operative processes and the relationships between governmental units and non-governmental interests. This also includes the culture of the particular Ministry or department being studied, as each governmental unit will have a unique disposition that reflects its external relations, because different types of policies engender their own distinct politics and sets of political relations (Spitzer, 1997).
- *The environment in which a specific policy or program is set* acknowledges that a policy initiative is always situated in the context of previous statements and actions. The understanding policy makers hold of the environment for which they design policy is a factor that spells the success or failure of the implementation of policy.

These three factors beg several questions that are often highlighted by policy analysts, politicians and bureaucrats in Ontario: How did the social and economic climate influence policy? Whom was the policy designed to serve? Who was consulted when formulating policy? How did the interactions between politicians and bureaucrats, between ministries, and between levels of government constrain or promote the development of policy?

This section places Ontario in an international context concerned with three main streams of policy development: science and technology policy, reductions in government funding, and policies affecting student fees and aid. From 1987 Ontario was led by three very different political administrations: the Liberals (1985-1990), the NDP (1990-1995) and the Progressive Conservatives (1995-). Using Courchene and Telmer's (1998) "interpretive analysis" of the economic climate these different governments worked within, one may observe that the Liberal era experienced "buoyant economic times [which] were not shared equally across the country", and neither were they experienced in many other North American jurisdictions (p. 71). The NDP, by contrast, entered office during the worst depression Ontario had experienced since the 1930's, and was consequently "mired in debt and deficits" which were not largely of its own making, since "even a cursory glance at the performance of the economic indicators over the 1990-1995 period suggest that fiscal disaster would have befallen the government, any government, in power during this period" (p. 4). The Conservatives had the good fortune of entering office at a time when the economy was on the upswing: "As of the beginning of 1997, the governing Conservatives are the beneficiaries of the lowest interest rates, the lowest inflation rates and the most competitive economy since the Robarts era and

probably well before then as well"; yet this is "an environment that Harris largely *inherited* rather than created" and is linked to the international markets Ontario industry is associated with (p. 47; emphasis in original).

Science and Technology Policy

Regardless of political stripe, the policies the various Ontario governments adopted from 1985 to the present were similarly intended to build and strengthen an infrastructure for a "knowledge-based" economy (Wolfe, forthcoming). These objectives are comparable to those of other industrialized jurisdictions. Arguments from policy-makers and academics alike from the late 1970s on have consistently suggested that R&D in high technology fields is essential to compete successfully in global markets (Anderson, 1990; Aronowitz and Di Fazio, 1994; Castells, 1993, 1998; Drucker, 1993; Reich, 1991; Tyson, 1992). Generic technologies are especially promoted – computers, telecommunications, electronics, advanced materials, artificial intelligence and biotechnology – as these serve as a means for supporting and streamlining traditional industries. Being a major source of skilled workers and innovation for these industries, universities are increasingly viewed as an essential component of economic development, which has sometimes moved the university's social functions to the background.

Neave (1988), for example, in examining changes in Europe, has noted that since the late 1970s higher education policy has undergone a sea change to become "less a part of social policy... [and is] increasingly viewed as a subsector of economic policy" (p. 274). Similarly, Slaughter (1998), in an analysis of the relationship between U.S. politics and higher education funding over the 1980s and 1990s, concludes that under both Republican and Democratic administrations, the U.S. pursued a high-tech economic agenda to the detriment of social programs. These policies were implemented by making tax cuts for the business sector and by initiating programs to stimulate technological innovation through deregulation, privatization and commercialization. This was accompanied by a constriction and targeting of higher education funding, and is especially apparent in support financial aid to students and R&D policy. Such targeting is the result of universities providing, either through R&D or education, the core technoscience infrastructure required of post-industrial economies (Bell, 1973).

While Ontario shared with other jurisdictions the objective of building a technoscientific infrastructure, the orientations and approaches the Liberals and the NDP took to the task were very different from those taken in most other jurisdictions. The Liberal government viewed social and economic development as activities that were contingent upon each other. Because the Ontario economy had never been stronger than it was during the five years that Peterson's government was in power, and because of the terms of its accord with the NDP, the Liberal government was in a position to experiment with a broad range of social and economic policies.

The Liberal government of David Peterson was the first to attempt to come to grips with the global economy. The Premier's Council was established in April 1986 with a mandate to "steer Ontario into the forefront of economic leadership and technological innovation" (cited in Courchene and Telmer, 1998). Chaired by the Premier, the Council included six senior cabinet ministers from trade, treasury, skills, labour, education and colleges/universities in addition to 20 Ontarians from various walks of life. After 18 months of research and two dozen Council meetings, its report *Competing in the Global Economy* was especially noteworthy for breaking with North America's prevailing neo-conservative orthodoxy (Wolfe, forthcoming). The document, many observed, was the most comprehensive, thorough attempt at long-term planning that the province of Ontario had produced. The report found that Ontario was lagging behind in high-tech industries, that its education and training systems were substandard in comparison to those of other industrialized regions and that its science and technology infrastructure was not focused enough on industrial priorities. The report recommended paying more attention to the development of human capital, small business and industrial infrastructure in areas of science and technology. Implementation of policy was to follow a co-determination model similar to models in Europe, rather than the Anglo-American expressed preference for submitting industry to market forces.

Notably, plans to put Ontario at the forefront of the knowledge economy involved policy research primarily from the Premier's Office and the Premier's Council, but not the Ontario Council on University Affairs or the [then] Ministry of Colleges and Universities. Business groups were influential in designing policy, as corporate partnerships were seen as a means of leveraging investments – not, significantly, as an ideological goal in itself. The government paid little attention to the higher education policies of other jurisdictions. Instead it looked for "economic successes" regardless of ideological orientation, which in turn led it to focus on the science. Technology, and labour relations policies developed in Germany, which has a comparable manufacturing base to Ontario and at that time had a very high rate of economic growth and labour peace.

The German approaches to funding basic research and to technology transfer were especially influential. Visits and exchanges were made with Germany, and Ontario became an "associate" member of the Four Motors Association which included the subnational region states of Baden-Wurttemberg (Germany), Catalonia (Spain), Rhone-Alpes (France) and Lombardy (Italy) – all regions having more economic similarities among each other than with other regions in their respective countries. As a result of these contacts, the Liberals initiated the University Research Incentive Fund (URIF), fine-tuned the technology transfer processes of the Centres of Excellence, and established student and faculty exchange programs with the "Four Motors of Europe."

The technocratic focus of R&D and training continued under the NDP when in September 1990, it won an unexpected majority government with less than 40 percent of the popular vote. Political advisors and senior bureaucrats responsible for formulating economic policy were determined to build on the industry and technology policies begun by the Liberals (Wolfe, forthcoming). Additional research and planning went into

numerous strategies aimed at increasing the overall productivity of Ontario's economy. The Minister of Finance and his colleagues consulted the works of Michael Best, Robin Murray and Michael Porter on regional development and achieving competitive advantage. The experiences of some American jurisdictions and the more innovative regional areas of Europe were also studied. For the NDP, competitiveness and productivity increases were to be realized not through minimizing cost levels of existing productive practices but through principles of social equity, the creation of high-value, high-wage jobs and the promotion of "an organizational culture supportive of technology and innovation in the workplace and society at large" (Wolfe, forthcoming).

Government sought to devolve responsibility for economic development onto the broadest range of actors by initiating numerous forums that encouraged sectoral partnerships. As part of the Sector Partnership Fund universities and colleges were involved in wide consultations which brought together 28 universities and colleges, 22 unions and 93 industry associations. The process was one of the "most valuable" outcomes in that it generated "a greater sense of trust" among the different players and sectors involved and contributed to "the effective identification of common sectoral interests" (Wolfe, forthcoming). These processes aimed at establishing a climate of continuous innovation and technological improvement built upon networks of firms, labour groups, colleges, universities and other institutions dedicated research and technology, as well as government agencies. Networks were viewed as a means to increase the collective competitiveness of firms in specific sectors relative to those in other regions. In addition to sector-focused activities the government took initiatives to assist in the growth of small, innovative firms in high-growth areas.

The actions that emerged from these planning and consultative initiatives included renewed funding for the Centres of Excellence as part of the government's strategy to enhance the quality of Ontario's technological infrastructure. The NDP also developed sector-based technology centres designed to provide technical, training and business support services to industry, to test research and to transfer technology and information. The initiative for a supercomputer put forward by Ontario's universities with private sector support was backed by some in the NDP but encountered skepticism from the Provincial Treasurer. In the end, however, funds were earmarked (but very little actually paid out) for the project. Overall, however, government actions to build a more innovative culture were limited by hostility from business groups over policies regarding equity in the workplace and minimum wage as well as by the lifespan of the government's mandate.

Within six months of assuming office the PC government either cancelled or reduced nearly all of the Liberal and NDP initiatives. The PC government's budget of November, 1995, called for a 15 percent reduction in total allocations to higher education and a 10 percent rise in tuition fees, gave universities the option to raise fees by another 10 percent, and completed the deregulation of international student fees which had begun under the NDP government (Jones, 1997). In the research sector the objective of building a high-tech region state continued, with however, the use of different mechanisms and a more deliberate intent of bringing the university and industry sectors closer together. The

Centres of Excellence, whose fate was uncertain for the first two years of the Conservative government, were restructured and reduced from seven to four in 1997-1998, and the Minister of Economic Development has indicated that these will be more closely tied to the private sector (Wolfe, forthcoming). Unlike the Liberals and the NDP, the Conservatives have shown a marked preference for broad framework policies such as reducing the tax and regulatory burden to stimulate growth, rather than focusing on the targeted spending policies favoured by the Premier's Council and the Rae administration.

A strong emphasis on technoscience carries through in the Conservatives' 1997 budget, *Investing in Our Future* which announced various tax incentives to develop the knowledge sector – human capital, R&D and innovation (Eves, 1997) – including:

- a 20 percent refundable R&D tax credit for corporate sponsored R&D performed in qualifying Ontario universities and other postsecondary institutions
- a 15 percent tax credit on labour costs in computer animation and special effects
- expansion of a cooperative education tax credit in information technology
- a tax credit for acquiring and implementing intellectual property
- elimination of a corporate income tax add-back rule for implementing foreign technology
- expansion of a retail sales tax exemption for R&D equipment needed by manufacturers
- immediate deduction of all R&D and qualifying intellectual property expenses for capital tax purposes.

While preference was given for tax breaks, some spending initiatives were also undertaken, the most significant being the R&D Challenge Fund, which was closely linked to the federal government's Canada Foundation for Innovation, and which represented \$500 million in public, university, and private industry spending over 10 years. The primary rationale was to spur university-industry liaisons as a means to support job creation and economic growth, and attract as well as keep skilled researchers in Ontario.

The emphasis on industrial and technology policy continued in the 1998 budget which announced several more policy initiatives concerned with educating and training the labour force for an emergent information economy. New measures designed to counter critical skills shortages included the Access to Opportunities Program (ATOP), which provides \$150 million on a matching basis, to create as many as 17,000 additional spaces in Ontario universities in engineering and computer science programs. As a matter of funding policy, ATOP is notable for three reasons. First, in its initial years at least, ATOP will function entirely outside the operating grants funding formula. Second, while matching schemes involving the private sector had been deployed by previous governments to underwrite and promote research, ATOP is the first instance of matching as a means of funding instruction. Third, ATOP is a provincial response to an issue that was first raised federally. Employers in several technology sectors had pressed the

Federal government to relax immigration requirements in order to promote the flow of foreign workers with education and training appropriate to those sectors. At the provincial level the problem was perceived as being the same but the solution was fundamentally different.

As Courchene and Telmer (1998) point out, the Conservatives' initiatives did not involve much direct provincial money. Through various tax incentives, the government hopes to leverage funding from the private sector. An added benefit of utilizing the tax system in this way is that it gives the government more control over educational changes than perhaps would have been possible otherwise.

Student Fee and Aid Policies

In Canada, since the Second World War, higher education has been viewed as a public good, and was therefore funded primarily from the public purse. Shapiro and Shapiro (1996) argue that this model is "clearly collapsing under the fiscal inability of Canadian public treasurers to pay the bill for an enterprise that is expected to be effective for so many individual student citizens". OECD policy analyst Alan Wagner (1996) observed that across member states higher education is currently characterized by increased participation as a result of high levels of secondary school completion rates, a widening diversity of student backgrounds, interests and needs, and pervasive constraints on funding from the public budget. Likewise, McGuinness (1995) and West (1996) argue that the current crisis in funding is partly attributable to rising student numbers and higher unit costs.

By the early 1990s, several observers began arguing that trends in financing higher education were not simply facing another cyclical downturn in government support but rather a new era of reduced support that was likely to be long-lasting (Breneman and Finney, 1997). In federal systems, these arguments were based on the view that most subnational governments had been experiencing structural deficits brought on by:

- obligations passed down from the federal government for social services
- growth in spending for health care
- demographic changes which increased the need for more funding to be directed to K-12 needs, prisons, and services to the elderly
- pressures to reduce taxes.

Faced with these other demands, politicians and policy advisors increasingly tend to view higher education spending as discretionary. Ontario does not appear to be an exception.

Wagner (1996) and West (1996) observe that relatively slowed growth in public funding has contributed to a tendency throughout OECD countries over the 1980s to lower unit costs, or expenditures per student, as institutions made adjustments to the ways education is provided. In the U.S. between 1980 and 1993 federal support for public

higher education dropped by two percent and state support by 8.8 percent. Private institutions gained slightly in terms of nominal state dollars but their federal funding was cut by nearly 4 percent (Zemsky and Wegner, 1997). As a share of state expenditures higher education spending declined from 14.0 percent in 1990 to 12.5 percent in 1994, notably the only sector to take such a cut (Breneman and Finney, 1997). Similar patterns may be seen in more centralized governing systems. In the U.K. (England and Wales) public funding per student has declined 22 percent in real terms between 1989 and 1993, while in France real public spending on higher education increased into the early 1990s but its growth rate still lagged behind the growth rate in students.

Lowered unit costs is widely believed to lead to a decline in the quality of education offered, although it must be noted that institutional economies of scale and improved retention rates could also contribute to lowered costs per student. An alternative to reducing the amount of money spent on each student is to raise the share of the total cost to be borne by students and their families. Hough (1992) remarks that this is one of the few clear international trends that have emerged in patterns of higher education funding. An increasing number of policy advisors, especially in Anglo-American countries, have also stressed that the financial basis of public higher education could legitimately be strengthened by mobilizing a greater share of the required financing from students themselves through charging or raising fees for tuition and services. The rationale for this argument is that as students can expect significantly greater lifetime earnings as a result of attending higher education and since they generally come from families with the ability to pay the expenses associated with higher education, they should be willing to support an institution increasingly viewed to provide as much if not more benefit to the individual than to society.

Some analysts argue that fees may make institutions more responsive to student needs and give students a greater sense of the monetary value of their education. Fees may also provide the incentive to finish a program of studies more quickly (OECD, 1990). Among OECD members, substantial fees have long been an aspect of higher education in Canada, Spain, Japan and the U.S. Within the last ten years fees covering a large part of instruction costs have been introduced in Australia, Korea, The Netherlands, New Zealand and Portugal. As of 1998-1999, new full-time undergraduates in the U.K. will be required to contribute up to 1,000 Pounds toward annual tuition fees (OECD, 1998a). Differentiated fees based on the cost, demand and earnings potential associated with the units of study are charged in Australia, and in a number of institutions in Canada, New Zealand and the U.S., although most countries do not make these distinctions (OECD, 1998a). For most of Continental Europe, however, tuition fees have not been considered, or when proposed, have been actively resisted, although most institutions charge negligible fees for services (OECD, 1998b).

In Ontario, the NDP government viewed increases in tuition fees as a means of leveraging support for institutions without straining the public budget. The NDP government also appeared to take a critical and skeptical view of self-funded or "privatized" programs like Executive MBA programs; but because no public funds were used to subsidize such programs, there was little the government could do other than

attempt to ensure there was no "bleeding" or "seepage" of public funding to support these programs. The NDP also chose not to modify *The Degree Granting Act*, thus keeping the Ontario educational market closed to out-of-province and out-of-Canada programs and institutions, many of which either were private or were offering the programs on a cost-recovery basis.

The U.S., as McGuinness (1995) notes, is often the model for government-higher education relationships in other countries. In the U.S a market model of student financing was adopted in the 1970s. The market model uses students as a vehicle for allocating public funds to postsecondary institutions. The model is not only adopted for financial reasons but also to provide an incentive for programs and teaching to be organized in ways that better serve student needs, and thereby increase diversity while reducing costs associated with failure and mismatches (OECD, 1998). The U.S. Congress initially promoted marketization through the Pell grants scheme inaugurated in 1972, which transferred need-based student financial aid from institutional to student grants. Students were given spending vouchers, a policy designed to foster competition among institutions for enrolments by promoting student choice. Institutional opponents to the Pell grants, as expressed by national policy groups, such as the Committee for Economic Development and the Carnegie Foundation for the Advancement of Teaching, proposed instead a high-tuition/high-aid policy (Colwell, 1980; Leslie, 1995). The aim of this policy alternative was to increase institutional control over funding and decrease public expenditures by making users who were able to pay cover a larger share of the costs.

It is important to observe at this point that, first, marketization is not necessarily privatization (Marginson, 1997; Lang, 1999) and, second, that these American initiatives were taken at the national level. At the state level (and at the provincial level had these issues obtained in Canada at the time) enrolment-sensitive funding formulas, with or without high tuition fees, could have had the same marketizing effect. Indeed the effect would have been stronger since more dollars per student would have been involved (as grant dollars would have been determined by enrolment as well as fee dollars).

The Ontario operating grant formula is fundamentally an enrolment-sensitive allocative formula. Its sensitivity to enrolment, however, has been muted by a variety of corollary government policies: first a "slip" year (which delays the effect of enrolment on grants by a year), then discounts of up to 75 per cent on enrolment growth, and finally a "corridor" arrangement that has been in place for a decade and renders the formula virtually insensitive to enrolment.

Setting concerns about balancing budgets aside, successive provincial governments might have still favoured higher tuition fees and targeted funding as means of promoting policy objectives and accountability since the funding formula no longer served those purposes. What is curious is that market behaviour that was in the past induced by the funding formula attracted little concern while, later, virtually the same behaviour induced by other factors – tuition fees, sale of services, technology transfer – has attracted a great deal of concern.

Hough (1992) contends that the process of charging or increasing tuition and student fees has been conducted in a "gradual, controlled manner", with institutions able to raise levels of fees per student only to the extent that this received government sanction. To some extent, Hough's observation appears to apply to the Liberal era in Ontario. The Liberal approach to tuition and fees emphasized the need to keep in balance the level of tuition, grants and inflation. Ontario, during that government's tenure, experienced an economic upsurge. Institutions responded, through the Council of Ontario Universities, by focussing on raising the level of government grants rather than by promoting the option of increasing student fees.

However, Hough's (1992) assumption that higher education policymaking is conducted in orderly, controlled processes stands in stark contrast with an abundance of other studies. McKeown (1982: 2), for example, states that most tuition increases are "backed into" as a means to meet discrepancies between appropriations and costs, rather than as purposeful, rational policy. Hauptman (1990) agrees, pointing out that prices for higher education are set primarily in response to government funding, which responds to the economic conditions. When the economy is on the upswing and public budgets are improving, political pressures tend to keep a cap on tuition levels. Governments "often make sudden policy changes" as a means to balance their budgets during economic downturns or crisis situations (Orfield, 1992). For this reason perhaps, tuition fees have never part of larger strategies in Ontario but have always been treated as a separate policy issue. The absence of a clear policy framework might also explain the recommendations of the Smith Panel in Ontario (Advisory Panel on Future Directions for Post-secondary Education, 1996) which called for university governing boards to assume responsibility for determining tuition fees. It could reasonably have been the panel's view that in a policy and political vacuum the government should defer to the governing boards.

The absence of coherent, controlled, orderly policymaking is especially apparent when tuition levels are already rising to meet fiscal needs (Griswold and Minton Marine, 1997). Lenth (1993) suggests that there is frequently a discrepancy in the relationship between appropriations and tuition fees, which is especially "difficult to maintain when the underlying financial conditions are not stable". These pressures were particularly felt in the U.S. during the economically depressed 1980s when tuition as a percentage of educational costs increased sharply, while aid, though increasing, lagged behind.

Thus, in the U.S., which often serves as a test case for other jurisdictions, government processes for policymaking with regard to tuition appear to be reactionary, as they do in Ontario. Governments increase tuition in reaction to environmental changes, rather than develop a rational, planned or coherent response to perceived needs. Tuition levels have tended to be set by appropriation shortfalls rather than rational cost-benefit analyses (Griswold and Minton Marine, 1997). In conducting case studies of tuition and aid policy in five states - California, New York, Massachusetts, Michigan, and Washington - Griswold and Minton Marine concluded that none of the states had attempted policy planning or coordinating the level of aid with the level of tuition, but had "floundered from year to year, leaving institutions scrambling to meet their financial needs." As a consequence of these changes, Callan and Finney (1997) observe that

whatever public consensus and public policy framework existed in the past has eroded. Increasingly terms like "privatization" describe and prescribe possible future directions. They argue that long-term systemic changes will result from what are largely unexamined and undebated responses to short-term considerations. The ultimate result may be a drastically altered system of finance that is disconnected from broad social and institutional objectives.

A recent report by the California Higher Education Policy Center supports this view. The report suggests that "annual fee hikes are synonymous with state higher education policy" and that "the California system of higher education is being redesigned almost casually without concern for public policy goals" (Schmidt, 1993; cited in Griswold and Minton Marine, 1997). In Massachusetts, where there is no coherent plan for tuition increases and no coupling of tuition levels with aid levels, "tuition is seen as a remedy to state financial troubles" and "actors change their recommendations frequently, depending on pressures applied to them" (Griswold and Minton Marine, 1997).

The State of New York serves as an example of the unintended results of hikes in tuition. The 1980s recession hit New York especially hard. Repeated efforts were made to raise tuition and cut costs. Student protests vetoed Governor Mario Cuomo's attempt to raise tuition in 1989. The state legislature chose instead to replace the \$46 million earmarked by the proposed tuition hike with public funds. Nevertheless, tuition levels crept up during the 1990s, accompanied by a decline in aid. Political and public pressures to prevent further increases in tuition have led colleges to cut services such as the number of course sections. In some cases, Griswold and Minton Marine (1997) state that this has delayed the graduation of students past the eight semesters that marked the duration of their funding. The authors also argue that declines in enrolment have accompanied increases in tuition in New York and in California (which experienced a seven to eight percent drop in enrollment after tuition was raised 35 percent in 1992-1993).

Similarly, after reviewing policy shifts in the U.S., McGuiness (1995) suggests that there will be a steady decline in funding per student over the next decade, leading the U.S. to withdraw from its commitment to universal access to higher education; which in effect he views it already has with increased admissions requirements and the shift from grants to loans serving as the means to restrict access. However, the OECD contends that there is no clear relationship between public expenditure on higher education and either levels of enrolment or even quality of education (OECD, 1990). While it is possible to have high levels of participation and low costs at the expense of the quality of the education offered, high participation rates and relatively low costs may also be achieved likewise through low rates of attrition, high rates of degree completion and other forms of efficient resource use (OECD, 1990; 1998b).

Griswold and Minton Marine (1997) note that policy symmetry is often abandoned in response to public opinion. Legislators in New York, for example, have tended to make cuts in student aid programs as a means to avoid further increases in tuition levels, as public protest is more likely to take place and be more effective in

response to tuition hikes than to cuts in aid. The authors state that this has led to a deterioration of efficiency and equity. While concerns over the loss of efficiency and equity are voiced in New York's debates over tuition and aid, policy changes are nonetheless driven by fiscal demands. This supports the view that high-tuition/high-aid policies are tied to fiscal crises, to the detriment of equity and access.

Slaughter (1998) argues that equity and access are the main casualties of high-tuition/high-aid policies. These policies have meant the shift from grants to loans as a means of financing student aid. As Slaughter sees it, by adopting these policies, the U.S. government has in effect chosen to adopt a "supply-side human capital policy" in which "the rich get richer, and the poor, poorer". The groups that paid most heavily for the policy changes were the middle classes and the working poor; the upper classes preferred to send their offspring to expensive private institutions (Kingston and Lewis, 1990), notably an option that is not available in Canada.

OECD data support this argument. The OECD (1998a) points out that despite increased rates of participation in higher education, "participation rates from low income or lower class families have not increased with expansion. In the United States, the participation rate of young people from the lowest income quartile changed very little from the late 1970s into the mid-1990s, while that of the highest income quartile rose by 10 percent". A similar situation is found in Japan. Because "loans most benefited parent and student users confident they could repay", the middle classes were pushed toward borrowing, while the working poor, who for various reasons are deterred from incurring long-term debt, were pushed toward low-cost community colleges (Slaughter, 1998: 214). Some observers suggest that if the intention of high-tuition/high-aid policies is to maintain equity and access, they are bound to fail since both are "undercut by continued increases in tuition rates and [are] overwhelmed by increases in the total costs of supporting higher education" (Lenth, 1993).

In Ontario under the NDP attempts to redress the perceived disparity in participation rates among the working classes and middle income groups led to policies which were sensitive to the needs of the college sector. Cabinet threw out a proposal to increase college fees by 20 percent and those of universities by 10 percent. Although the NDP cabinet was extremely divided over the issue of raising tuition fees, with members from working-class constituencies pushing to keep fees minimal and the Premier thinking they could go higher, there evidently was no support for an American model. Instead the NDP looked for ideas from countries that shared a similar ideological focus. The government's decision to allow higher tuition fees across sectors was to some extent based on policies in Australia, while the concept of income contingent loan repayment (ICLRP) was imported from Australia and to some extent from Sweden. Nevertheless, there was a need for alignment with the federal government's Canada Student Loan policies, which led to the OSAP "loans first" directives.

Students forced to borrow to finance their higher education sometimes accumulate significant debts before graduation. In Canada the average debt load of a first-degree student is expected to increase from Cdn\$13,000 in 1990 to Cdn\$25,000 in 1999, when

the proportion of borrowers with debts exceeding Cdn\$15,000 will reach 40 percent (OECD, 1998a).

Impacts of Funding Policy: Autonomy Through Commercialization

Canadian universities, as in most OECD countries, are autonomous in that they receive substantial public funds but have considerable discretion over the allocation of this funding. The OECD (1990) claims that in several countries the shift toward more enterprising behaviour has increased the financial and administrative autonomy of the institutions. The greater emphasis on institutions raising income through charging student fees, for example, provides a source of income that is not subject to the same restrictions as government contracts or formulae but may be spent as the institution pleases without the detailed accountability that is a growing requirement of many institutional subsidies (OECD, 1990). Notably, this trend does not currently obtain in Ontario. Despite the complexity of the Ontario operating grants formula, the vast majority of institutional grants, once determined, are transferred as block grants to be allocated at each institution's discretion, just as tuition fee revenue is.

Some governments believe that increased financial autonomy will make institutional managers more fiscally responsible and encourage them to seek funds from other sources. Evidence to support this view comes from Britain and the U.S. which have long traditions of financial autonomy and in which colleges and universities earn more supplementary funding than universities in countries where all expenditures are controlled from outside the institution (OECD, 1990).

Matching grants from government provide an increased incentive for institutions to be active in seeking funds in select areas. The Ontario Student Opportunity Trust Fund and the Ontario R&D Challenge Fund are examples. Several countries have accompanied moves toward greater financial independence for their higher education institutions by increased selectivity in funding. Resources are targeted to specific programs rather than allocated to the general academic work of the institution. This additional funding often follows supply-side policies that favour programs and research areas that are already heavily supported.

Critics of government efforts to devolve responsibility for resource allocation to the institutions view this as an attempt to make it easier for the state to impose financial cuts without having to be concerned in detail about the consequences (OECD, 1990). Others note that as the bases of funding have widened, the definition of accountability has broadened from involving equitable access and efficient use of resources, to include performance and results (McGuinness, 1995). This initiative has been state-led, as are the shifts from detailed expenditure controls to the use of new funding schemes designed to stimulate an internal realignment of priorities and resources. A survey conducted by the Center for Policy Study in Education at George Mason University revealed that far from being more autonomous, college and university presidents felt there was increasing state

interference in the daily operations of higher education institutions (Gilley, 1997). These effects may be compounded or diffused by the trend in many OECD countries to widen the funding bases and devolve financial responsibility to individual universities and colleges. The rise of the market approach to the provision of higher education is most evident in the U.S. where universities receive a mix of funds from the federal government, the state government and non-government sources, and are also subject to a high degree of market accountability.

Clearly governments exert a great deal of control over university behaviour through their capacity to change the funding formulae and target funds to areas deemed of strategic importance. Since the late 1980s, most governments in industrialized countries and regions have modified their funding allocation formulae and chosen other financial incentives as ways deemed more effective than administrative intervention to encourage institutions to adopt cost-conscious and entrepreneurial behaviour (Hough, 1992; OECD, 1990). Governments may justify these measures as leading in the end to greater social equity. With the demands of primary and secondary schooling, correctional facilities, health care and welfare competing with higher education for public funding, and for the most part serving children and vulnerable populations who often cannot pay for these services themselves, politicians are likely to view the postsecondary sector as better situated than its competition to take more responsibility for the care of itself through a wide range of fund raising possibilities (Roherty, 1997). Unquestionably universities have wide access to finance outside the general core income of public funds, but because this funding constitutes a considerable part of the university's economic viability and is often the only means to finance new developments, its influence may be much greater than the proportion of income it represents (OECD, 1990).

At the institutional level, steps taken to compensate for government cuts or reallocations to funding for higher education show elements of convergence. Wasser and Picken's (1998) analysis of international trends, for example, found "that initiatives, whether in the public or private sector, in one country or another, to compensate for universal cuts in public funding of higher education are on the whole remarkably similar: mobilizing income from students, participation of the private sector, increased reliance on market forces." Likewise, Slaughter's (1998) examination of longitudinal trends for public universities revealed that in response to federal and state government cutbacks in their allocations to higher education "universities maintained revenues by increasing user costs, by private sector investment, and by commercialization."

As a result of market forces impacting on knowledge production, Slaughter argues, higher education institutions adopt their own unique version of supply-side economics when making internal allocations of resources. The results of her case studies suggest that administrators have concentrated public resources on certain productive enterprises in the university – corporate research and high-end professional markets – in the belief that this will stimulate demand. In many cases, public funding is directed to departments and programs that are already highly funded. The inevitable consequences of these actions, she suggests, is that fields of study which are viewed as being close to the market flourish while others perceived to have little market value are left to deteriorate.

Her supply-side analysis is supported by the OECD (1990) which reported that in France subjects already treated as a priority in regular funding such as business management and certain high-tech fields continued to receive special dispensation; while in Spain research was being directed "towards those fields which have the easiest access to subsidies to the detriment of more fundamental or less commercialized fields". An examination in this study of spending patterns in Ontario universities shows no evidence of this phenomenon.

Considerable policy advice calls for a reduction in basic research in favour of applied research (Anderson, 1990; Gibbons *et al.*, 1994). As Anderson puts it, "The success of America's trading partners was not built on expanding the frontiers of science but on adapting science to products and to the production processes" (Anderson, 1990). A similar marked preference for marketable research has been evident in Ontario since the inception of the Centres of Excellence under the Liberal government of David Peterson. The Centres of Excellence program was followed by the University Research Incentive Fund (URIF) and the Ontario Centre for Large Scale Computing, both of which involved partnerships with industry, as do the forthcoming Ontario R&D Challenge Fund and the Canada Foundation for Innovation. Thus governments of all stripes and at both levels appear committed to promoting research the results of which can be transferred to the private sector and marketed.

The concept of autonomy is complex, extending well beyond an institution's capacity to generate and allocate funds. While universities may now be more able to gain access to and distribute funds, it is unclear whether such freedom trickles down to the core activities of teaching and research. West's (1996) international study argues that declines in funding have neither prevented governments from insisting on greater levels of accountability nor from evaluating the quality of higher education. In Ontario, each of the last three governments has shown a strong interest in performance indicators.

George and McAllister (1995) argued that under the Liberal and NDP administrations, university-government relations in Ontario showed a trend toward increased government influence in the day-to-day operations of universities through changes in the funding formulae. They reported that in 1985 nearly 75 percent of university operating income was distributed by the funding formula; by 1993 the proportion had dropped to 60 percent, the 13 percentage point difference now being allocated in the form of grants earmarked by government.

In addition, the government initiated "comprehensive audits" of Trent University and the Universities of Guelph and Toronto in 1988, 1989 and 1990. Comprehensive auditing, as George and McAllister interpret it,

broadens the scope of a normal financial audit and purports to test the efficiency, economy and effectiveness of the expenditures being made. It invites the auditor to comment not only on whether the funds were spent for the purpose they were intended, but also on whether the original purpose was valid. In effect, it invites the auditor to inject his or her own values or biases into an assessment of the worth of the program.

Reports of the Provincial Auditor were received by the Standing Committee on Public Accounts, which in 1991 issued a series of recommendations, including broader use of comprehensive auditing. In response to these recommendations the Minister of Colleges and Universities established a Task Force on University Accountability. The task force, however, recommended against comprehensive auditing in favour of investing governing boards with greater responsibility. That so far appears to be the government's position in response to a further three audits that were completed late in 1999.

George and McAllister argue that these government initiatives are "not just a simple matter of society at large attempting to make its universities more open and accountable" but "can be viewed as a form of conflict among various elite groups within those institutions and within society as a whole." The authors suggest that within the Ontario legislature, the staff of the Office of the Provincial Auditor may have used their criticisms of university responsiveness to further their own roles, knowing that the more irresponsible universities were portrayed to be, the greater the perceived need for the Provincial Auditor, and the more reason to expand the role and powers of that department.

In comparison to other jurisdictions, however, governments in Ontario have been reluctant to impose direct policy changes upon the university sector, preferring instead a "system of checks and balances" to influence institutional behaviour indirectly (Jones, 1997). The reasons for this are unclear. In the U.S. it has been suggested that elected officials are hesitant to "take on" higher education because it forms such an important source of organization and finance for their campaigns (Roherty, 1997). It seems, however, that in Ontario the reasons may be found in the electoral cycle and the media coverage university issues receive. The electoral cycle dominates decision-making and policy development. Policies that can be implemented quickly and gain timely public support are more attractive than long-term initiatives. University reform tends to be regarded as a long-term undertaking, and the institutions are viewed as somewhat fixed and hard to change. That this would appear to be so to the press media and, for that matter, to government should not be surprising. The gestation period for most things that universities do is relatively long: degree programs take between three and five years to complete, students are admitted only once or twice a year, major research projects often span several years. Higher education is therefore poorly suited to day-by-day press coverage. Moreover, the natural cycles of higher education are in numerous cases longer than the tenure of governments.

Other reasons for the difficulty that governments and the press, perhaps even the public at large, encounter in coming to grips with issues in higher education is the absence of an organizational centre of gravity in the structure of the government. Programs and policies that apply to higher education in Ontario are often found in several different ministries. For example, none of the several programs, like URIF, aimed at promoting partnerships between universities and industry was administered by the ministry that was responsible for universities.

Even within Ontario's Ministry of Training, Colleges, and Universities (previously the Ministry of Education and Training and before that the Ministry of Colleges and Universities) there can be confusion. College and university issues are sometimes conflated. Capital funding and operating funding, which are very closely related in the planning and delivery of university programs, are dealt with separately within the ministry. As a policy and accountability device, "performance indicators" first developed and reported in 1999 for student loan default rates, graduation rates, and employment rates seem to be aimed mainly at private vocational schools but are being applied to universities (and colleges) as if they also were private vocational schools.

But autonomy, however secured, often comes with a price. Lane (1979), for example, observes that in Sweden prior to implementing the higher education reforms in 1977, activities were controlled by detailed government regulations which were not unfavourable to the institutions by any means, but rather provided academic staff especially as well as the institutions' management with a considerable degree of influence over government policies and decisions. After the reforms, institutional control over operations increased, but the influence of the academy in government affairs declined as government paid increasing attention to the concerns of groups outside the university. More autonomy was achieved but at a cost of reduced professorial and managerial influence. The 1992 reforms would spell the loss of both, as Sweden's new conservative government decentralized university governance and streamlined financing and accounting procedures (McGuinness, 1997). With the return of the social democrats in 1994, many of these changes were retained.

Similar moves were made in New Jersey in 1994 when Governor Christine Todd Whitman eliminated the State Board of Higher Education and the Department of Higher Education, decentralized institutional governance and established a new, much smaller state planning and coordinating structure. As McGuinness (1995) sees it, these measures "blew the system apart." The state decentralized its system by giving the governing boards of each public institution more authority and responsibility. It established a new, smaller and more policy-oriented (as opposed to regulatory) Commission on Higher Education to plan and coordinate the system. Such measures to increase autonomy, McGuinness argues, lead to a benign neglect on the part of government which cannot remain benign for long. "The danger", he believes, "is that state leaders, frustrated with the perceived lack of response from institutions but overwhelmed by other priorities will cut higher education's funding or try to push the problems away by privatizing the system."

Building Systems of Higher Education

Some policy analysts suggest that there is a convergence occurring among national systems of higher education in the western countries. Berg (1993), for example, believes that there is "a clear trend in favor of the decentralization of decision-making in countries which traditionally had a centralized system, while the Anglo-Saxon system is

moving in the opposite direction". If Berg included Ontario in his study, he must have seen trends that have not materialized. There is no "system" of higher education in this province in the sense provided by McGuinness (1997) of there being a central agency responsible for the coordination and articulation of sectors and institutions. This may be because the vision of a system that higher education institutions and organizations hold has not been compatible with the visions held by successive provincial governments and the ministry. The Ontario "system," to the extent that one exists, is mainly an artifact of various funding algorithms: what the universities share in common is the basis on which they are funded.

Berdahl (1985) recounts that as early as 1965 the Bladen Commission advocated the development of an ongoing coordinating board for each provincial system, and later in 1972 the Commission on Postsecondary Education in Ontario "strongly recommended a coordinating board with executive authority". While this received the support of the universities, the Council on Universities, the Ontario Confederation of University Faculty Associations and the Ontario Federation of Students, the provincial government has been reluctant to grant executive authority to a coordinating board. Berdahl attributed this to the government "perhaps feeling that it wanted to honour university autonomy by avoiding such authority".

Other possible explanations are that universities do not really want to cede any autonomy to a system, regardless of how it is organized. That disposition is especially strong in periods of financial scarcity, as what might be termed "organizational Darwinism" dominates institutional behaviour. It may be that governments that wish to rationalize or reorganize public higher education lead with their chins by focussing on budgetary issues. Whether or not the current Ontario government deliberately wishes to promote market behaviour in the university sector, it should understand that such behaviour would inevitably defeat any attempts to create a university system.

George and McAllister (1995) argue that the decision taken in 1993 under the NDP administration Ontario to amalgamate of organizational responsibility for colleges and universities indicated a failure "to acknowledge the autonomous position of Ontario's universities." Within the new ministry, staff involved with universities were in some cases subordinated to those involved with colleges. Soon after, a more far-reaching amalgamation would create a "superministry" of education and training responsible for skills, training, elementary and secondary schools, as well as colleges and universities. (In the government's second mandate the superministry was dismantled; education is again organizationally separate from post-secondary education and training.) Set in such a large agenda, "university concerns are seen to be downgraded and the ability of universities to influence government decision-making [is] somewhat weakened" (p. 317). If governments are concerned about the responsiveness of universities to social and economic needs, a ministry organized to make quick decisions about higher education would be in the interest of both the government and the universities. In the aftermath of the creation of the superministry confusion ensued and decision-making slowed nearly to the point of paralysis. Of course, it is also true that benign neglect sometimes is

advantageous to institutional autonomy, which in turn can accelerate institutional decision-making and innovation.

States often want higher education institutions to respond to the local demands of the region. McLendon and Peterson (1999) note that in 1995 in Michigan, the state university system received a substantial increase in funding while the more prestigious "flagship" University of Michigan system received only a small increase sufficient to adjust for inflation. An informant from the legislature rationalized the decision thus: "Unlike the University of Michigan, Michigan State serves [the state of] Michigan rather than its own narrow interest in international fame" (McLendon and Peterson, 1999). The implication was that the University of Michigan ignored the interests of the state in its pursuit for global stature.

Government action in a democracy cannot help but be led by public opinion. Nettles (1995) observes that a 1993 report on the status and condition of higher education, *An American Imperative: Higher Expectations for Higher Education* identified the crisis in higher education as one of a low and declining public opinion of the inherent value of higher education. Several public polls have supported this view. A 1991 Gallup poll conducted for the Council for the Advancement and Support of Education revealed that the majority of people consider a college degree valuable and important, but the education that students receive is not seen to be as important or as valuable as the degree. Similarly, a 1993 poll conducted by the Public Agenda Foundation for the California Higher Education Policy Center revealed that 62 percent of the public thought that many employers hire higher education graduates for jobs that could be performed as effectively if not better by people without a degree. The same poll found that 64 percent believed higher education needed a major overhaul, but not as extensively as did the primary and secondary school systems. These polls suggest to Nettles (1995) that the public's demand for higher education is associated more with its labour market value than with its intrinsic worth. In Ontario, universities themselves sometimes reinforce that view by promoting programs on the basis of rates of post-graduation employment and compensation.

Woffird (1990) and Gilley (1997) suggest that politicians and bureaucrats are beginning to view higher education as just another special interest group, protecting its own turf at the expense of others. Gilley observes that in the U.S. there is growing hostility toward the higher education establishment on the part of Congress, Congressional staff and others in Washington. Colleges and universities are frequently castigated for always wanting special treatment. These views seem just as prevalent in Ontario, where universities are sometimes viewed as self-centered and impossible to satisfy.

Governments in Ontario are either aggravated or nonplussed by the habit of some lobby groups to present obvious self-interests as serving the greater good. For example, the Ontario Federation of Students does not like fee increases, but often presents itself as representing and being expert in much broader interests. Politicians and governments in Ontario seem willing and capable of dealing with openly self-interested lobbying; they

are considerably less comfortable with self-interest that is promoted in the guise of broad public interest.

Ontario university presidents appear to be adept at avoiding the image of being merely a special interest group. Contrary to the U.S. experience (Wofford, 1990), Ontario university presidents have more influence than any other interest group in formulating policy. This could be a by-product of the relatively large degree of autonomy that universities in Ontario have. The government recognizes that university presidents are the equivalent of chief executive officers, and holds them accountable on that basis. In this respect Ontario may be ahead of a trend that is now developing in Europe.

A 1986 survey conducted by the Center for Policy Study in Education at George Mason University polled 50 state governors and received 32 usable responses to a question concerning the governors' main sources of ideas and influence. Of the 32 governors that responded, 29 placed education as a top priority of their administrations. However, the findings revealed that governors relied on their own staff and organizations for ideas. As Gilley puts it "Governors essentially got their ideas from each other, ideas that evolved through a metamorphosis as they were passed around a closed circle of governors and associations" (1997). Although Canadian premiers were not included in this survey, its conclusions could easily have applied to the last three governments in Ontario.

Whether or not higher education is a priority of Ontario governments, the premier's office is by far the most frequent source of policy initiatives involving universities. There is scant evidence of reliance on the civil service, including the former Ontario Council on University Affairs, for policy development in higher education. The Liberal and NDP governments viewed the OCUA as a forum for resolving issues among universities, instead of as a source of policy. The Progressive Conservative government discontinued the OCUA, which implies that it did not wish to rely on the OCUA as a source of policy either. Whether or not the OCUA could or would have been a useful source of policy development and articulation, its absence or the absence of some other buffer body like it appears to have limited the government's capability to liaise and consult with those who would be affected by policies.

TUITION FEES AND THE PUBLIC AND PRIVATE BENEFITS OF HIGHER EDUCATION

Although there is considerable scholarly debate about how the public and private benefits of higher education should be measured and financed, there is much less debate about what those benefits are. The public benefits of investment in higher education are those enjoyed and "absorbed" by an entire society, while the private benefits are those that are reaped by the participating individuals themselves. These private benefits include the now well demonstrated higher lifetime earnings enjoyed by graduates of university and college versus high school graduates, as well as the more intangible benefits such as deriving greater satisfaction from work life and vocational choice. The public benefits of investments in post-secondary education include the benefits from research, "the

cultivation and discovery of potential talent, increased ability of an educated workforce to adapt to the changing requirements of the labour market and economy," and the role an educated workforce contributes generally to economic growth (Cohn and Geske 1990).

Governments in Canada, the United States and many European countries simultaneously play the roles of regulator and provider, reflecting perhaps the fact that market mechanisms sometimes fail and therefore alone are insufficient to mobilize and organize educational investments. As Galbraith noted in *The Affluent Society*, the "message" of the social benefits of educational investment may be crowded out or lost in societies with a strong consumerist bent, and "the lavish displays of produced goods" may command more consumerist attention than socially beneficial services (Cohn and Geske, 1990). The manner in which a society grapples with the balance between recognizing the social and economic benefits on the one hand, and the private benefits, on the other, inform to some extent the public debate about the appropriate cost-sharing arrangements struck between tax payers and higher education participants.

In the early years of the United States, as the notion of government support for education in general was evolving, the conversation - which was lead by, among others, former U.S. president Thomas Jefferson - turned to the universal character of both primary and secondary education as a cornerstones to a just society. Jefferson said:

The less wealthy people... by the bill for a general education, would be qualified to understand their rights, to maintain them, and to exercise their intelligence their parts in self-government; and all this would be effected without the violation of a single natural right of any one individual. (Institute for Higher Education Policy, 1998)

Nearly a century and a half later, some scholars continue to argue that, given the immeasurable social benefits to a society, the state has an obligation to pay for its provision in exchange for the students' lost income while in school:

The student should contribute to his own education from which he surely derives benefit in increased earning power and in personal growth. Similarly, society in general, which benefits from higher education through the advancement of the economy and the culture, should contribute. However, the student contributes his full share when he devotes years of his time, and sacrifices substantial earnings, for his education. The student bears perhaps three-fourths of the economic cost of higher education in the form of sacrificed earnings. It seems unreasonable and unnecessary to load more on him in the form of high tuition fees, to be financed, as is usually suggested, through loans. (Bowen, 1968)

It would be misleading to suggest that there is a direct correlation between the level of public investment in higher education and the level of recognition of its social benefits. However, it is not a coincidence that shifts in the relative emphasis on either the social or public benefits or the private benefits reflect, reinforce or even assist in reinventing financing arrangements. As the recognition of the broad social benefits of

investment in higher education wanes in popularity - among stakeholders, public policy makers, the media, and the public - so too does public investment. Perhaps coincidentally, these are also periods of steep tuition hikes.

In the United States, unfolding discussions in state legislatures and the media about the relative value of higher education have shifted and have come to emphasize its private, individual benefits. "Today, the typical discussions about the value of higher education are not about the broad range of benefits that it provides. Instead, these conversations tend to focus on the narrow topic of the private economic benefits that result from going to college, such as high salaries and better jobs" (Institute for Higher Education Policy, 1998).

A 1998 study conducted by the Institute for Higher Education Policy (IHEP) suggests that all post-secondary "stakeholders" in the United States - including governments, policy makers, the media and the "public" - have contributed to this shift in emphasis. The media, in the typical cycle of the news year, produce stories every convocation season concerned with the labour market experience that a particular crop of graduates may anticipate, which has been fairly encouraging and robust in the last five years. However, little attention is paid to the "broader social impacts resulting from these improved job prospects". For their part, higher education leaders and administrators often cite rate-of-return studies in their bid for more public funding, as took place at the 1997 hearings of the National Commission on the Cost of Higher Education. In terms of the public perceptions, the Institute also found that the public's strongest and most positive identification with participation in higher education concerns graduates' better and more fulfilling labour market experience. In terms, then, of trends towards the commercialization of higher education, universities may be reaping the grain of seeds that they themselves helped to sow.

The results of a recent study conducted in Ontario by the Angus Reid Group for the Council of Ontario Universities on public attitudes toward universities reflect slight trends, suggesting that there is a recognition of both the economic benefits - on an individual and provincial basis - as well as the broader social benefits of investment in a university education. Thirty-two per cent of respondents cited "improved job prospects" and "finding a good job" were the most important motivating factors in encouraging attendance at university. The poll also showed that 63 per cent of those asked felt that getting a university degree, rather than a diploma or certificate - "gives graduates the best change to earn more money". The poll also found that 90 per cent agreed that "a well-educated workforce greatly improves a province's economic prospects and international competitiveness. Clearly, the economic and monetary benefits were top-of-mind issues, although 69 per cent also said, "having a university education helps an individual contribute to his/her community and society as a whole."

Another finding of note in the COU-commissioned poll indicated that Ontarians were on the whole unaware of the level of Ontario government support for universities, which is the lowest per capita in the country. According to the authors of the poll, "After being informed of this situation, fully 88 per cent thought it should become a top or

somewhat of a priority for the Ontario government" (Livingston, Hart, and Davie, 1998). What is telling about this finding is not that the majority of respondents were convinced in the course of the poll that universities should become a spending priority with the next elected government, but rather that they were unaware of the funding level in the first place.

Perhaps a better indication of the public's attitudes toward universities can be found in a survey conducted three years ago by Livingstone, Hart and Davie, which produced slightly different results. This study indicated that 19 per cent of those asked felt a university degree was necessary preparation "to get along in this society," while 39 per cent felt a diploma from a community college or trade school was sufficient. Moreover, just less than half (48 per cent) felt that the government should pay 50 per cent of the costs of attending university. (There is, however, no information about the public's perception of a corollary question: What does the public understand the costs of a post-secondary education to be?)

These trends in terms of the shift in the "benefits" discussion and the ascendancy of the focus on economics benefits are also seen in the scholarly emphasis. Increasingly, economists and higher education scholars who take an econometric approach have interrogated long-held beliefs in the value of the social benefits of investment in post-secondary education. They have argued through cost-benefit analyses that the private returns of educational investment are substantial, and that therefore participants should shoulder a greater share of the costs (Stager 1997). Knowing the rates of return with precision, however, would not necessarily lead to policy unanimity about how the investments that create the returns should be shared between the public purse and individuals.

In the United States, the field of student demand studies has generated much research in an attempt to locate the impact of increasing tuition fees, and as a field of research in higher education, it is second only to studies of rates of return (Leslie and Brinkman, 1987). Demand theory is motivated by the establishment of statistical benchmarks of accessibility, and concerns itself primarily with the effects of changes in tuition fees on the participation rate, as well as the effects of student aid in its many forms on enrolment. Consistent with conventional demand theory, demand theory in higher education is premised on two basic assumptions. First, that enrolment rates will be negatively associated with increases in fees charged; and second, that enrolment will be positively correlated with increases in the amount of student aid available. In other words, it is the net cost to the student that counts most.

Thus demand studies demonstrate how tuition fee policy and student aid can be potentially used to manipulate demand. Historically, in Ontario, efforts to manipulate demand have fluctuated between expanding student aid, and alternatively, controlling - and eventually regulating - tuition fees, ultimately through the establishment of a funding formula. From the 1920s to the 1950s, government chose to increase the amount of student aid available rather than reduce tuition (Stager 1989). From 1940 to 1945, the concern about the specific allocation of student aid focussed on the provision of funds to

veterans. As the veterans graduated, federal grants to universities decreased and tuition fees began to increase in importance in terms of their percentage of university income. From 1951 until 1981, tuition fees declined fairly steadily as a percentage of university operating income, declining more slowly between 1976 and 1981 (Stager 1989).

From 1950 to 1965 tuition fees doubled in real terms, and enrolment in Ontario rose by 50 per cent in the 1950s and almost doubled in the 1960s. The primary purposes of such tuition increases in Ontario were to accommodate the substantial increase in demand.

From the 1950s to the 1970, as the following table indicates, tuition fee revenue as a proportion of universities' overall revenue declined throughout Canada, falling from approximately 30 to 40 per cent of overall revenue to 10 to 15 per cent by the middle of the 1970s. "Since then, the trends have diverged, with a continuing decline in Quebec and a slight increase elsewhere. But this increased share -- especially in Ontario -- may be explained by an increasing proportion of the fee revenue coming from foreign students who pay much higher tuition fees" (Stager 1989).

Throughout this period, policy makers made no real attempt to formulate tuition fees at a level that reflected actual costs, and variations in the fees charged for different programs - arts and science, engineering and medicine - diminished over time (Stager, 1989). From 1929 until 1965, the fee for engineering was substantially higher than the arts fee, ranging from a low of 30 percent more (of the general arts fee) to more than 100 percent more than the arts fee. During the decade of the 1980s, the difference narrowed to a value of 10 percent of the arts fee. Beginning in about 1929, tuition fees for the medical program were the same for engineering but increased during the Second World War. Further differentiation appeared during the 1982 to 1988 period, when medicine fees were 27 percent higher than the arts fee (ibid.).

Sources of Canadian University Funding, 1959-1997

	Federal %	Provincial %	Fees %	Other %	Total \$000
1959-60	21.7	35.3	28.5	14.5	143.3
1976-77	8.4	74.8	12.0	4.8	2,435.8
1984-85	11.6	65.9	12.8	9.7	5,739.3
1996-97	8.2	49.1	18.4	24.3	11,397.8

(Dupre, 1998)

With respect to the rationale behind increases in tuition, the period of 1980 to 1993 is important. The approach to tuition fee policy during that time was to replace declines (relative to inflation) in provincial operating support with tuition increases, producing no net loss in the combined revenue of the two sources, meaning universities' total income remained relatively constant (though enrolment grew substantially during this time). There was a fairly concerted effort to maintain low tuition, and at the same time a belief that any new monies in the system were to be private in origin and would be invested in improvements in quality as opposed to the expansion of capacity.

With the election of the New Democratic Party in 1990, the pattern of replacing declining grant income with tuition income continued until 1993, at which time the "symmetry in policy" was lost - tuition was increased seven percent, and the operating grant by one per cent. This was a recognition that universities were in need of an infusion of money. However, the NDP's struggle with the deficit meant a substantial reinvestment of public funds was not possible. At that time, the Premier's office brought forward a proposal to increase college fees by 20 percent, and universities by 10, but Cabinet reacted to the political risks - real or perceived - of raising fees disproportionately in a sector designed to serve the needs of a lower socio-economic background. It was also recognized that fee increases of any great magnitude were - politically speaking - "no-winners" and that "universities were never satisfied with the increases, and the public reacted negatively to them." This comment was interesting for the fact that it was singular in its reference to the matter of press attention on tuition fee announcements - and on increases in particular.

In Canada the media are just beginning to devote major attention to the issue of affordability of tuition. However, public opinion polls taken in the last several years in the United States suggest that the rising price of tuition is a major concern of parents of would-be students (Institute for Higher Education Policy, 1999), and tops other issues such as the cost of day care or health care (Newsweek as cited in *The Chronicle of Higher Education*, May 30, 1997).

Moreover, research conducted by the California Higher Education Policy Center in 1993 found that there was a strong relationship between rising prices and public calls for the overhaul of the system - in other words, as prices increase, greater public and political scrutiny is paid to the general state of the system. Not surprisingly, the research also indicated that as prices stabilized, the scrutiny diminished (Institute for Higher Education Policy, 1999). This translates into policy makers paying attention to the manner in which resources are spent and used within institutions of higher education. In a 1998 survey, the Education Commission of the States found that public policy makers felt that tuition increases could be avoided if universities and colleges spent their resources more wisely, and "realigned their spending with those areas the public most cares about, particularly undergraduate education and job preparation (Institute for Higher Education Policy, 1999), which results in the creation of public policy that makes funding and further grant allocations contingent on the results of accountability and performance

measures. (Moreover, some politicians in the United States feel that increasing the student aid available also makes escalating tuition fees possible.).

In the Ontario context, a recently commissioned poll conducted by the Angus Reid Group for the Council of Ontario Universities on public attitudes toward university education found that Ontarians share the U.S. public's belief in the importance of access to higher education. They also share their neighbour's concerns about cost: the poll located cost as a primary factor in preventing interested and capable students from attending university, as well as the prohibitive effects of a large debt load upon graduation. More than three-quarters - or 77 per cent - cited either a lack of financial support or the prohibitive costs of tuition as a factor that discouraged university attendance (Council of Ontario Universities, 1999).

The Livingstone, Hart and Davie survey of 1998 noted that the majority of respondents favoured a cost-sharing arrangement the put more of a burden on students and their families. However, they also noted that only one-fifth of lower-income families (defined as those with household incomes under \$20,000) supported tuition increases.

Changing Trends

Until recently fee policy - perhaps more exactly, political practice towards fees - in Ontario was guided by a strong belief that the social benefits associated were sufficiently great, and that low tuition went toward achieving access. However, with the election of the Progressive Conservative government, a new approach to fee policy emerged, which reflects changes in attitudes toward higher education in general. Some of those trends include:

- The challenges of growth posed by the transitions from elite to mass to universal education, reflecting a lower priority on the rate of participation in higher education.
- Continued growth of higher education systems in the face of governments' continuing concerns with debt and deficit (Common Sense Revolution, 1995).
- A growing skepticism about the degree of efficiency in public sector service delivery (Orstom and Orstom, 1977).
- A growing belief that students should pay a larger share of universities' operating income. This belief may or may not reflect a changing view of the balance between the public and private benefits of higher education. It might also be motivated by a belief that higher fees will engender competition among universities and make them more accountable.

- A relatively recent, more conservative, attitude toward social spending on the part of Ontarians, particularly in the area of higher education expenditures (Livingstone and Hart, 1998).
- Although extremely recent, a widespread disappointment in the university's ability to act as an effective mitigant of class reproduction (Nowotny, 1995).

A document that embodies and enunciates several of these general shifts is the Report of the Advisory [Smith] Panel of Future Directions for Post-secondary Education (1997). Although it was officially an arm's-length document, authored by an independent body at some distance from the government, it conducted its review within a carefully defined framework that was provided by the government (Discussion Paper on the Future of Postsecondary Education in Ontario, 1996). Among the areas evaluated for reform were the balance between government grants and tuition fees, student aid, and the province's capacity for the establishment of new, private institutions. It was the first comprehensive look at the potential areas of reform being considered by the Harris government. Although the panel found that the "basic structure of Ontario's post-secondary sector is sound," they also argued that "without significant change in the way the sector is evolving and the way it is resourced, its quality and accessibility will be undermined, along with institutional capability to deliver the broad range of programs and the high caliber of research that will be needed in the future" (page 2).

One of the key themes of the Smith Report with respect to tuition fees was its finding that the resources currently available to Ontario's higher education institutions could be better allocated in a more deregulated system. "Along with expanded opportunities for greater choice, the governing bodies of universities and colleges must become more responsible and more accountable for decisions affecting individual institutions" (Smith Report, 1997). With respect to tuition fees, greater discretion was proposed for institutions to set tuition fees. Specifically, the panel recommended that:

it would be more helpful to develop an approach [to setting fees] that is characterized by institutions' flexibility to determine fees, program by program, based on analysis of the value of programs in a competitive market, and of the revenue that is needed to provide a high-quality learning experience for students. (page 32).

Further, the panel thought that such arrangements would foster "collaboration and cooperation between and among universities and colleges, support program differentiation as well as institutional differentiation and specialization," (page 32).

The panel, however, qualified its notion of fee deregulation. It recommended that the provincial government recognize an upper limit on tuition fees in its assessment of support through the provincial loan program, the Ontario Student Assistance Program. Those universities that charge above that established threshold should be required to allocate greater institutional resources to student assistance.

The Smith Report cited three potential avenues for tuition fee determination by program:

1. Tuition fees could represent a certain percentage of program costs.
2. Tuition fees could represent a certain percentage of institutions' operating costs.
3. Tuition fees could be directly linked to the economic benefits that students derive from their education, resulting in fees that are relatively higher in those programs for which labour market demand is strong or whose graduates can anticipate greater job security and relatively higher incomes.

While these may appear to be rather simple, straightforward propositions, they are in fact analytically quite complex. Private rates of return on investment in higher education on an individual basis are calculated by comparing the private costs of attending a post-secondary education institution (foregone earnings, tuition fees, books, transportation expenses associated with attendance, where these exceed that spent in alternative activities) and the benefits (after tax earnings differentials) (Bowen, 1968; Stager 1997). A male university graduate's comparator is the male high school graduate, where rates of return are calculated, for example, by comparing the after-tax income of a male arts and science graduate or a male medicine graduate with those of a male with only a high school diploma. Male graduates were not compared with female graduates.

Stager found a substantial range of private return rates, from seven percent at the low end to a little more than 20 percent at the high end (1997). These high rates overall follow from a decrease in the rates of return during the 1970s, at which time many Western economies fell into recession. During the period of 1939 to 1959, the average total rate of return for male graduates of American four-year colleges was about 11 percent. That figure increased to 11.5 per cent in 1969 and then dropped to 10.5 percent in 1972 and to 8.5 percent in 1974 (Stager, 1997). A similar decline occurred in the United Kingdom during the same period of time, when the rate of return dropped particularly significantly for male graduates in science and engineering. According to Stager, the Ontario data mimicked this tendency quite closely: estimated rates of return for male graduates increased in 1985 to 14 percent and remained at that level through 1990.

Based on both these calculations and tuition fee levels as of 1990, Ontario universities at the time would not significantly affect these rates of return by doubling fees. Stager found that a male arts and science graduate would derive a rate of return in lifetime after-tax earnings of 7.3 percent if tuition was set at current levels; 8.5 percent if tuition were zero; and 6.4 percent if it were doubled. Therefore tuition fees could be substantially increased before lower rates of return affected lifetime earning prospects and thus enrolment. Given the role of future return in students' decisions to attend university, Stager suggests, it is appropriate from an institutional planning point of view

that tuition fees be increased to reflect a new balance between the individual and the tax payer (Stager, 1997).

Tuition Fees in Other Jurisdictions Compared to Ontario

The United States

Tuition prices for American postsecondary institutions vary greatly, but can be grouped in five categories by their average fee (Institute for Higher Education Policy, 1997): 1) Public Universities (\$3,321), 2) Public Colleges (\$2,778), 3) Public Two-year Colleges (\$1,283), 4) Private Universities (\$16,531) and 5) Private Colleges (\$11,911).

In the United States the participation rate has increased consistently from 1977 to 1997. In 1977, the participation rate was 51 per cent, and has risen 16 percentage points over the last 20 years. As of 1997, approximately 67 per cent of recent high school graduates enrolled in some form of post-secondary education immediately after high school. In terms of the breakdown by sex, 64 per cent of male high school graduates enroll in PSE, while 70 per cent of female high school graduates do so. Enrolment in some form of post-secondary education has also increased for all income groups throughout most of the 1980s and 1990s.

This increasing rate in enrolment exists alongside substantial tuition fee increases. Overall, the average tuition fees have increased by almost 500 per cent during the period of 1976 to 1996, or nearly doubled after adjustment for inflation. According to an analysis of trends in tuition fees and participation rates conducted by the Institute for Higher Education Policy (1997, p.5), the institutional investment and expenditure of a significant amount of funds in student financial aid "has helped to ease, but not erase, the consequences of higher prices."

The rate of tuition increases in both the private and public institutions has outstripped the rates of both growth and inflation in most major price indices, including students' and families' ability to pay, as measured by per capita personal income. Over the entire period of 1976-96, tuition increases were greatest in the private sector in terms of both percentage changes and dollar amounts. Since 1989-90, however, public sector tuition has risen by a larger percentage, explained largely by dramatic declines in state support for higher education institutions.

The Institute for Higher Education Policy - as well as many stakeholders - locates the primary reason for the fairly substantial year-over-year increases in tuition fees as the declining public investment in higher education, for which institutions and states have attempted to compensate in the form of fee increases. In terms of the breakdown in trends over the period of 1977 to 1997, there was tuition fee stability from the mid 1970s to the early 1980s, at which time the growth in "sticker price" dramatically exceeded inflation

among both the public and private sectors. Over the entire 20-year span, tuition increased in public institutions by 375 per cent, and at private institutions by 408 percent.

During this period of substantial increases, institutions devoted an increasingly larger amount of funds to both research and student aid. In view of the level of competition and the dynamics of the American higher education market, it is not surprising that increases in fees have occurred most dramatically in the most selective of private institutions, and have not resulted in price stabilization across the system.

Moreover, to sustain or improve an institution's market niche, institutions have opted to shift spending to "prestige" areas. Zemsky and Massy (1990) argue that the competitive market has increased the value of prestige, and when colleges are faced with the option of cutting, spending or increasing prestige, they will choose the latter course, since with higher prestige comes greater resources, including higher tuition fees. "While harder to quantify empirically than student aid spending, the analysis by McPherson and Schapiro (1998) shows that the two sectors in higher education that have seen the greatest internal spending increases outside of student aid are the public and private research universities. Most of these increases were in public service and research, not in instructional areas" (Institute for Higher Education Policy, 1999).

Despite increases in tuition, access to post-secondary education in the United States, represented by the participation rate, is quite high, as noted above. However, there persists an enormous difference in enrolment rate among the children of the wealthy and the poor, which has been measured at approximately 30 per cent. This high participation rate can be explained in part by the increasing importance for young people to obtain some form of post-secondary education. When the fee increases are compared to the economic costs of non-participation, clearly the costs of nonparticipation outweigh the increases in cost due to fees. (However, if earnings alone are the measure of the worth of the additional investment required, the benefit has not increased nearly as much as the price; US incomes for bachelor's degree holders have remained steady.)

In terms of disaggregating the effects of higher sticker prices, there have been small shifts in the enrolment patterns of students from different socio-economic backgrounds, consistent with the recognized view that students from lower-income families are more sensitive to changes in fees. Middle- and upper-income students have enrolled at a declining rate in community colleges, opting instead for the more prestigious, expensive research institutions. "Low-income students - who are more price responsive - have remained largely concentrated in public two- and four-year institutions. These trends will translate into the most economically stratified period during the past two decades" (Institute for Higher Education Policy, 1999).

Research in the United States conducted by Kane (1995) suggests also that the overall enrolment rate provides few truly meaningful clues about how students of different backgrounds respond to changes - particularly increases - in tuition fees. His study of the impact of tuition fee increases in US public institutions demonstrate that price increases more dramatically affect the enrolment decisions of lower-income

students, particularly those at two-year public colleges (in Morton and Schapiro, 1998). "Specifically, states with high public tuition fees have lower college entry rates, the gap in enrollment between high- and low-income youth is wider in high-tuition states, and within-state tuition hikes lead to lower enrollment rates and wide gaps between high- and low-income youth" (Morton and Schapiro, 1998).

The Institute for Higher Education Policy suggests that in order for the effects of these dramatic tuition increases to have been mitigated, the use of aid would have to have been administered in a manner that compensated for the increases in sticker prices and the differential effects those prices would have had on the different subsets of the student population. However, this was not the case, according to an analysis of changes in average net price by 1990 family income. The average net cost to the student of attending both public and private four-year institutions grew more dramatically for the lowest income families.

According to Heller (in Morton and Schapiro), every \$100 increase in tuition results in an enrolment decline of 0.5 to 1 percent across all types of institutions. Decreases in financial aid also lead to declines in enrolment, with the effect differing depending on the type of aid awarded. In general, enrolments are more sensitive to grant awards than to loans or work-study (Institute for Higher Education Policy, 1997). Similarly, every increase of \$150 in net costs results in an enrolment decrease of 1.8 percent (Morton and Schapiro, 1998).

Australia

The last three governments in Ontario have been particularly interested in developments in the financing of universities in Australia. The NDP government and the Progressive Conservative government both expressed serious interest in income-contingent loan repayment programs. More often than not, when those governments offered examples of what they understood an income-contingent loan repayment program to be, they referred to the Higher Education Contribution Scheme (HECS) that was introduced in Australia in 1989-90.

Beginning in 1974 and until 1988, Australian universities did not charge tuition fees. They did, however, levy a Higher Education Administration Charge (HEAC), which averaged about A\$250. The concept of HECS was introduced in a "green paper" in 1987 and developed by a special committee that reported in 1988 (the Wran Report). The plan reintroduced tuition fees and abolished the HEAC. The estimated net gain in revenue was estimated to be approximately A\$550 million by 2001. Under HECS tuition fees may be paid in one of three ways:

- An up front payment discounted at 25 per cent
- A series of deferred payments made through the federal income tax system. This, formally, is the HECS. The debt is indexed for inflation. Repayment in the form of a tax

debit begins when the former student's personal taxable income reaches the "average industrial wage" (which is a formally calculated statistic in Australia). No debits are made in any year when personal taxable income is below the average industrial wage. The rate of annual repayment is one, two, or three per cent of taxable income, depending on the level of income above the average industrial wage.

- A partial (\$500) up-front payment discounted at 15 per cent, with the balance paid under HECS.

Up-front payments and tax debits accrue to the federal government. The universities immediately receive grants in lieu of fees, whether the fees are paid up-front or deferred.

The origin of HECS was a paper - Higher Education: A Policy Discussion Paper - which was presented to Parliament in 1987. The major thrust of the paper was a series of needs for expanding Australian higher education. The principal need was additional capacity for undergraduate education. There was also a concern that not all sectors of Australian society were adequately represented in higher education, and that the low or no fee policy was disproportionately subsidizing wealthier students.

The committee that was formed to respond to the discussion paper was remarkable in two ways, especially in comparison to Ontario. First, it had a very broad mandate that went far beyond tuition fees to include support from industry, foreign governments, private benefaction, and graduates (as distinct from students) and tax levies. Second, the composition of the committee was unconventional. It did not draw on those offices and agencies that would normally have dealt with issues involving funding for higher education. In Ontario, the equivalent arrangement would have been one that would have excluded the Universities Branch and the minister's office of the Ministry of Education and Training, the Council of Ontario Universities, the Ontario Council on University Affairs, and the executive heads of universities.

The committee and the responsible minister from the start characterized the issue in terms of three simple questions:

- Who benefits from higher education?
- Who pays for higher education?
- How can the Australian system of higher education be made fairer?

Politically, the last question was the key that opened the possibility of major reform. Even before the committee had issued any interim reports there were suggestions that the answers to the first two questions would indicate that the system was unfair in the sense that there was an inequitable imbalance between who paid and who benefited.

The committee's final report reflected the issues as they were originally framed. The first two questions were addressed in factual and analytical terms. The last question was addressed mainly as a matter of fairness in broad social and economic policy.

Although HECS is the reform that is most apparent and discussed outside Australia, it was part of a larger package that also included:

- A series of changes in student assistance which were aimed at specific groups of financially disadvantaged students. These changes were directed at costs in addition to the costs of tuition. They were not directed towards offsetting the costs of HECS.
- The development of "education and training levies", both as a means of leveraging additional funds for higher education, and as a means of promoting skills development.
- The identification and development of other sources of funding, and of other (than financial) means of expanding accessibility by specific disadvantaged groups.
- Abolition of the HEAC.

The abolition of the HEAC was so obviously a corollary of HECS that one might wonder why it needed to be highlighted in the reform package at all. There were two reasons, both more or less political.

The first was a reminder that there was already a fee for higher education, albeit a small one. Until 1974 Australian universities had charged conventional tuition fees. They were removed by a previous Liberal (in Australian terms, conservative) government and replaced by the HEAC. The political point was to forestall any notion that higher education, as a matter of policy, had been free and now would have a cost.

The second reason was to remove from the universities all direct responsibility for tuition fees. HEAC payments had been collected and retained by the universities. Under HECS the universities' involvement is registrarial, or what in Ontario would be described as enrolment reporting under the operating grants formula. This essentially logistical step allowed the government to say to students that there would be no fees in addition to HECS and that the government alone controlled HECS. Taken as a package, then, the HECS program was about more than finance. It also fundamentally changed the respective roles of the universities and government in regard to tuition fees and tuition fee policy.

HECS allows for a limited form of what today might be described as privatization. With the approval of the federal minister, certain graduate professional programs can attract two times the HECS fee. These programs are almost exactly the same as those in Ontario for which there is no upper fee limit.

Currently, students who began their studies prior to 1997, tuition for a full-time course load is \$2,560 Australian dollars (CAD. \$2,463); for students who enrolled after 1997, tuition has been increased and differentiated on the following basis:

- \$3,409 (CAD \$3,279) for Arts, Humanities, Social Studies/Behavioural Studies, Education, Visual and performing arts, nursing, justice and legal studies
- \$4,855 (CAD \$4,671) or Mathematics, computing, health sciences, agriculture/renewable resources, built environment/architecture, sciences, engineering/processing, administration, business and economics
- \$5,682 (CAD \$5,466) for Law, medicine, medical science, dentistry, dental services, and veterinary science.

This differentiation is not, notably and obviously, based on program cost.

The legislation that created HECS required annual studies and reports about the effects of HECS on accessibility. Current studies show that the effects of recent changes to the HECS scheme did not appear to affect the level of demand for or participation in higher education. In fact, there was a general upward trend with apparent retention rates up to 1992 unaccounted for by trends in the labour market and likely related to changing attitudes towards education (Andrews, 1997). According to Andrews, government policy in this period was strongly encouraging of increased school retention and there was a general increase in the minimum educational standards for entry into the job market. However, after 1992, the rate declined.

As is the case in the United States, as the previous discussion demonstrates, looking at the aggregated enrolment rate is sometimes an inaccurate measure in and of itself for gauging accessibility. Research done by the Higher Education Division of the Department of Education, Training and Youth Affairs in Australia indicates that the participation rate among students from the lowest socio-economic status (SES) backgrounds remains low (Department of Education, Training and Youth Affairs, 1999). Students from low socio-economic backgrounds are defined as those whose postal codes of permanent home address fall within the lowest 25 per cent of the population of a given region, determined by the Australian Bureau of Statistics Index of Education and Occupation.

On a national average, the participation rate for those students from low SES backgrounds is 15 per cent, against a low SES population for the nation of 25 per cent. In Tasmania, low SES families represent 37 percent of the state's population; while the participation rate for students from those families is 13 percent. Access or participation rates for students from low SES backgrounds over the age of 25 are even lower than for the under 25 age group.

In Australia, the participation rate of low SES students overall has declined slightly over the period of 1991 to 1997, from 15 percent of the student population to approximately 14.3 percent. There are also substantial variations from one university to the next in the proportion of low SES students they attract, ranging in 1997 from a low of 5.4 percent at Macquarie University to a high of 40 percent at Central Queensland

University. However, there is little variation in the rate of graduation between low SES students and the rest of the student body.

In terms of the effects of the introduction of HECS on a student's choice of study, low SES students are over-represented in agriculture, education, engineering, nursing, and under-represented in high prestige, higher cost areas of law, architecture, dentistry and medicine. Regarding the level of studies, low SES students are severely under-represented in higher degree studies, and over-represented in sub-degree and qualifying courses. Students from rural areas are under-represented in higher education institutions, though they have retention and graduate rates similar to rest of the student body.

Ontario

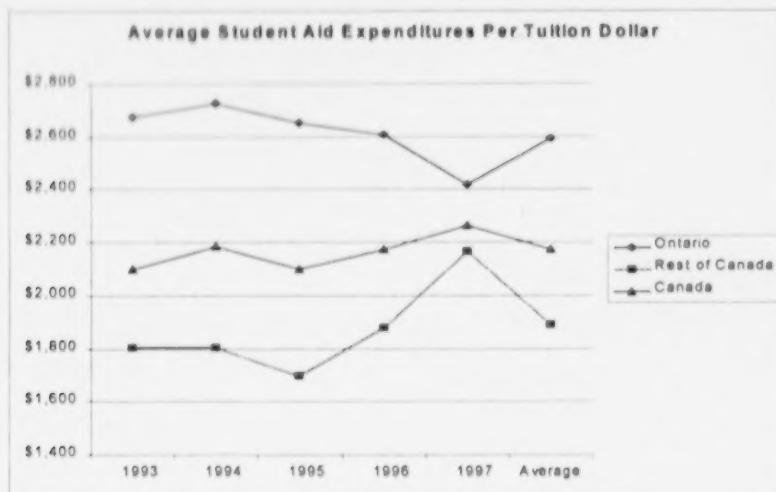
Ontario's longstanding but unofficial policy on accessibility is usually expressed as "a place in some program at some Ontario university, but not necessarily the program or university of first choice, will be provided for every academically qualified student who wishes to pursue university studies". This policy represents a cluster of objectives driven by demand for university education, and comprises a cluster of different policies, most notably the question of university and college capacity and expansion of the post-secondary education system, student aid, and tuition fee policy. Moreover, the accessibility policy drew on two essential assumptions: that, as the policy implies, every able student be able to obtain some type of post-secondary education, and that such a policy would contribute to provincial economics growth. For all intents and purposes, it appears that there has been no official change in this policy since its creation in 1981.

Nationally, tuition fees have increased substantially over the last two decades and represent a much higher percentage of university operating income: as a national average, universities collect roughly \$2.97 in government grants (Little 1995) for every \$1 in tuition collected, versus \$6.44 in government grants in 1980.

In Ontario, which has seen the largest increases in tuition fees in the past five years, tuition has increased over the last five years from a low of 53 percent (Nipissing) and 61.1 percent (Carleton) to 109.9 percent (Western), 106.7 percent (Toronto) and 104.3 percent (Guelph). In the face of steady enrolment increases, which slightly outpaced the growth of the pool of 18 to 24 year-olds, there is a need to look at indicators other than the participation rate. Over the same five-year period (1993-1998), increases in the graduation rates are also evident, although the increases vary greatly from province to province.

As in every province, some of the increases in tuition fees are offset by increases in spending on student aid. One way of measuring the relationship between tuition fees and student aid is to express student aid expense as a proportion of tuition revenue, as the following table indicates. From 1993 to 1996 Ontario trailed the rest of Canada in the ratio of spending on student aid to tuition revenue. In 1997 that trend reversed as Ontario

moved ahead of the rest of Canada. Since Ontario is the only province that requires that 30 per cent of each tuition fee dollar increase be directed to spending on student financial aid that trend might continue, particularly if the Ontario Student Opportunity Trust Fund realizes its projected steady state at \$600 million.



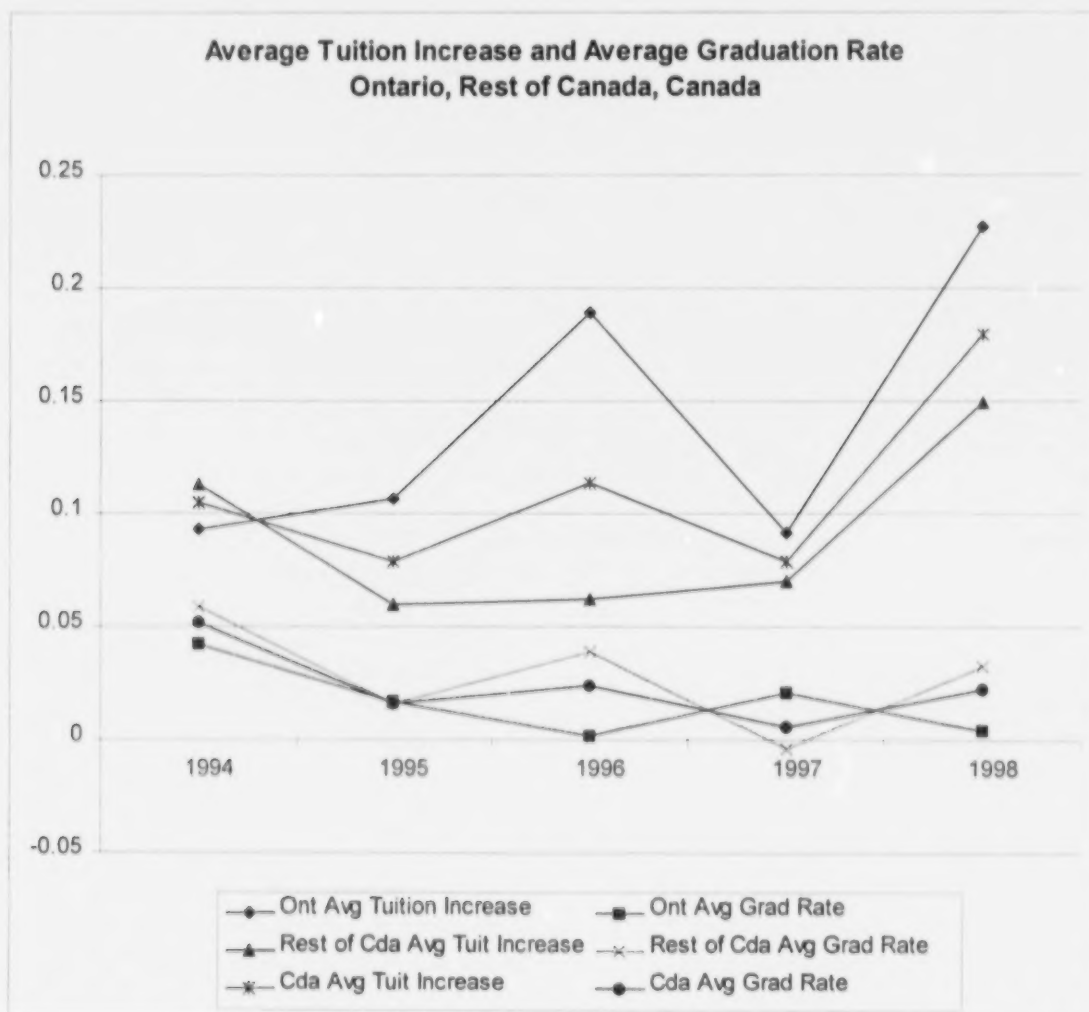
The impact of the Federal government's enhancements to the Registered Education Saving Plan (RESP) on accessibility to higher education has so far been problematic. It is a major public investment in higher education. Currently, however, less than two per cent of post-secondary students are using RESP funds to finance their educations (Schofield, 1998). Of course, raising the rate of utilization was probably one of the reasons for replacing the previous unenhanced program. But even if the rate rises, the nature of the RESP's tax arithmetic is such that those sectors of the population which avail themselves of the program might not comprise those who are the most under-represented in higher education (Donnelly, Welch, and Young, 1999).

Rates of Retention, Attrition, and Graduation

Data submitted by universities to *Maclean's* magazine for its annual survey provide some glimpse into student response to tuition increases, although it is far too early to gauge accurately the full effects of recent increases. In terms of what is expected from such dramatic increases in user fees, conventional wisdom would suggest that the incidence of drop-out - technically, the attrition rate - would increase. However, consistent with economists' views of consumer response to the imposition or increases in prices, the rate of retention and graduation has risen across Canada, including Ontario.

The average institutional increase in tuition from 1992 to 1998 was 65 per cent while the comparable change in graduation rates was 12 per cent. On an annual basis the average tuition fee increase was 11 per cent, while the average annual increase in the graduation rate was 2 per cent. Provincially, the average annual increase in tuition fees was higher than the rest of Canada, but the annual average graduation rate was lower.

The initial implication seems to be that tuition fees and graduation rates either are not statistically related or that increases in tuition fees do not cause graduation rates to fall, and in fact appear to lead to higher rates of graduation. This appears to be the case Canada-wide as well as in Ontario.



In addition to the role fees play in raising revenue, fees are intended and used to adjust the amount of service demanded by individual citizens or private organizations, and thus can affect the costs of services. As Hatry (1983) notes:

The rationale for this approach is that persons who use a particular service should pay for it, in accordance with the amount of use. This should cause people to consider the service's cost to them and adjust their demand for the service in proportion to the value they set on that service. This, then, more closely approximates the business principle of being able to sell to citizens only those services that citizens want. When fees are charged, many citizens can be expected to reduce their use of the service from the level of use when the service represented no added cost to them, which occurs when the activity is funded out of general revenues.

This would appear to apply to the relationship between tuition fees and students' persistence to stay in school, as they seek to get full value from the educational opportunity that they have purchased, albeit at a price discounted by government subsidies. This also may be a relevant theoretical paradigm that explains the posture of the last three Ontario governments towards higher education. There is no system of higher education in Ontario, as the term "system" is understood in other jurisdictions. Nor is there a comprehensive policy framework in Ontario beyond the operating grants formula manual. These circumstances may be neither unfortunate nor misadventurous.

If one accepts the proposition that governments often have difficulty knowing "how much is enough" in terms of the range, quality, and distribution of academic programs (and indeed many public services) it may be pragmatically reasonable and fundamentally democratic to deploy fees as a means of answering the "how much is enough" question. This, of course, is not an argument for fees based on costs, or for artificially high fees. It is, however, necessary that fees be high enough to be taken seriously as prices of the programs and services offered.

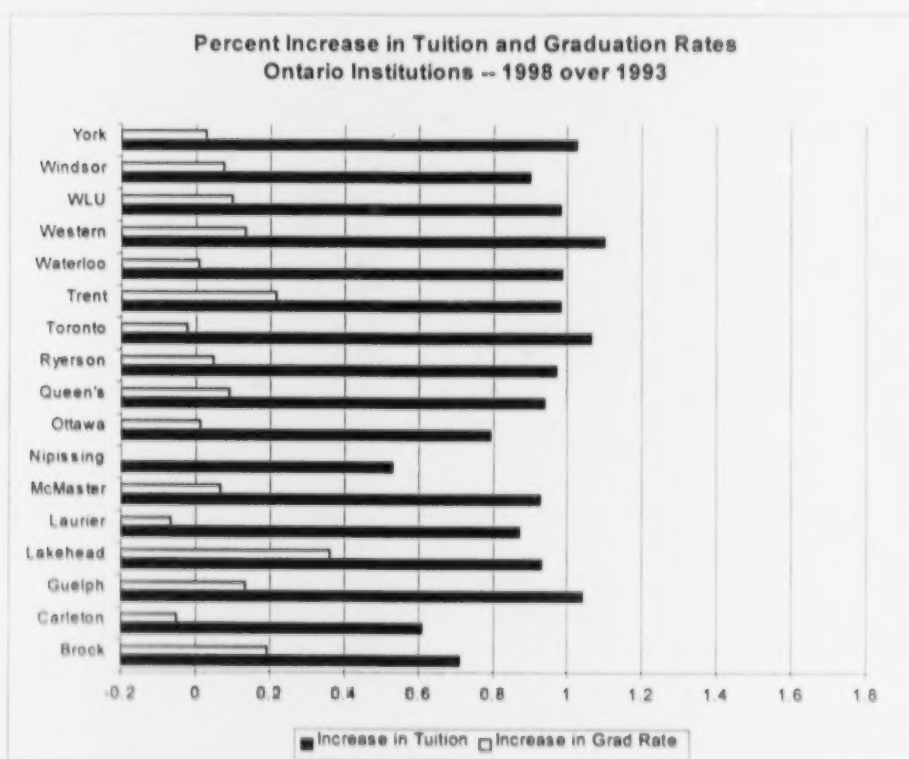
Charging fees imposes a consumer discipline on users of a service that is perhaps not evident in the absence of fees (or, more precisely, prices). Therefore, when a more substantial personal investment is required, it becomes more costly to invest in some university education without completing a degree and, at least theoretically, realizing the return on investment that justified paying the fee in the first place.

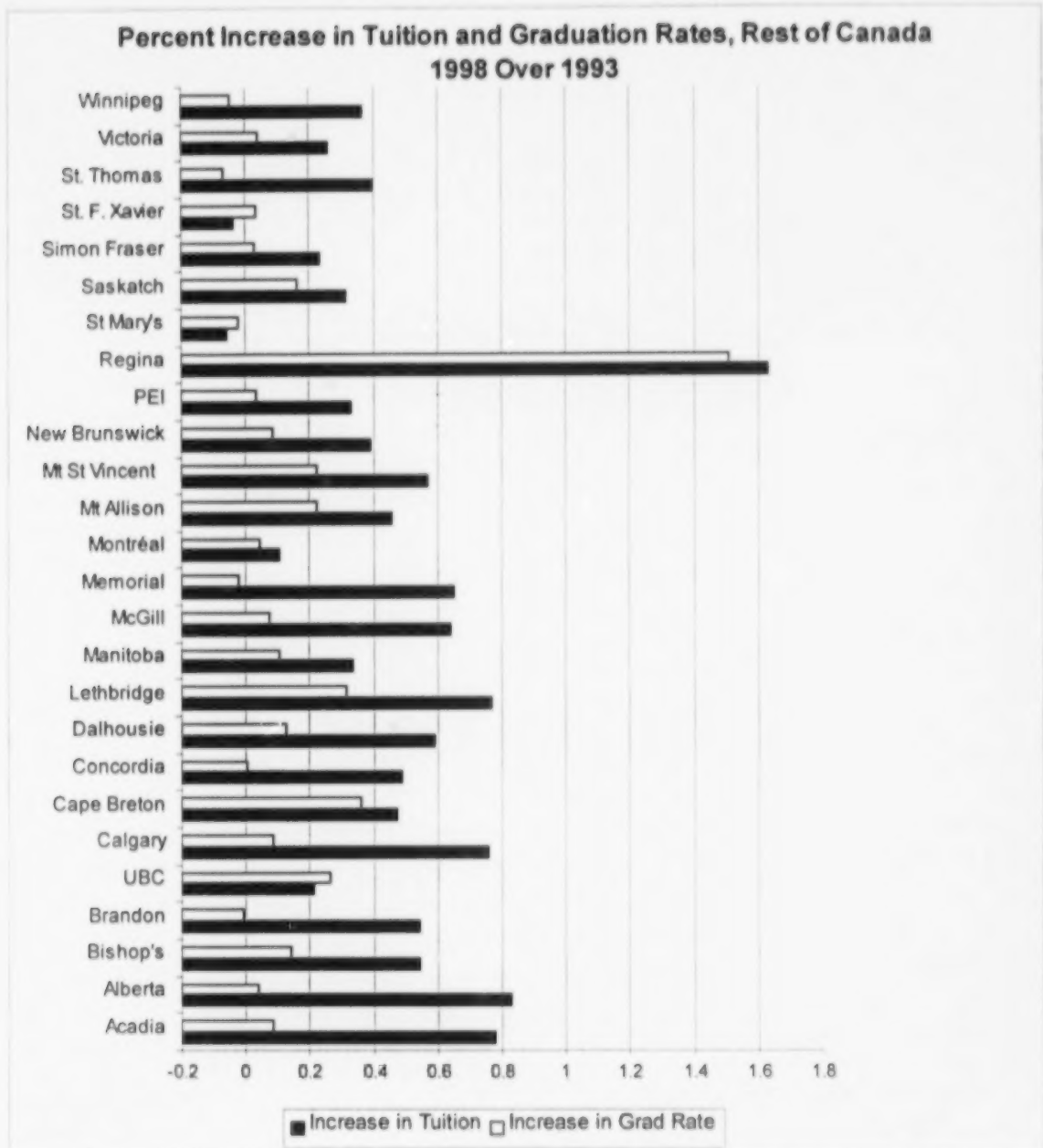
At first blush, it appears that there would be no way to predict individually at which institutions retention and graduation rates will go up and where they would go down as fees rise or fall. This is where aggregated data will not assist in answering some of the questions about how some students respond to changes in prices, or the strategies they craft to avoid increases in prices. It is perhaps the "commuter" schools (those which draw large numbers of students from their surrounds and thus who are more likely to reside at home) that may be more affected by tuition increases than more-or-less residential universities. This would be due to the fact that tuition fees constitute only a

portion of educational investment, and thus changes in fees would make less of a difference when one considers all the costs.

For instance, in the case of the graduation rates of York and Toronto (2.8 percentage point increase and a 2.3 percentage point decrease respectively), both draw many students who continue to reside at home during their studies. At the other end of the spectrum are Trent (21.6 percent age point increase) and Western (a particularly large residential school at 13.5 percent). This contrast suggests that tuition increases might have different effects in terms of the retention rates on different university populations, flowing from, in part, access to large local populations. This is borne out by the increase in the importance of the proximity of an institution in terms of student choice in institution, evident in a longitudinal analysis of the University of Toronto admissions surveys, and may suggest several things:

- Students living at home may be more likely to withdraw from a program without graduating than those students living away from home.
- Greater consumer discipline might be exercised by students who do not live at home.
- For students entering the system in the midst of steady year-over-year tuition increases, costs might be absorbed by residing at home during study ("cost avoidance").





In the end, however, these are informed speculations that can be confirmed only after more time has passed in Ontario under the new regime of high tuition fees. For now one can only observe that the available statistical evidence indicates that higher tuition fees either correlate positively with retention rates or are neutral towards those rates.

Two additional facts must be taken into account. Although in principle universities in Ontario could have set fees at different levels over the last seven years (the period for which data on retention rates are available), they in practice did not. Variations in fees from institution to institution are so minor as to be statistically negligible, particularly in large enrolment undergraduate programs. The other fact is that the other costs of university attendance - books, travel, residence, ancillary services - have been relatively stable, particularly in the last five years following the introduction of the government's new ancillary fee policy, and during which inflation has been low.

Default Rates on Student Loans

Data on the rates of default on student loans have been available for only the last three years, so it might be early to identify statistical trends, but preliminary evidence is; that the rates of default are declining for university programs generally. The range of variation among programs and institutions is quite large: the average for 1998 (loans that were taken out in 1995-1996) was 12.3 per cent, but the highest (in Fine Arts) was 20.4 per cent and the lowest (in Optometry) was zero. Programs in arts and science tended to have default rates above the average, while professional programs tended to be below the average. Among institutions the range was from 29.6 per cent at Algoma to 7.1 per cent at Waterloo. The comparable average rate for colleges was 25.4 per cent, and for private vocational schools, 35.4 per cent. (Ministry of Education and Training, 1999)

Comparable data for 1999 show declines across the board. Notably, these data pertain to loans that were taken out in 1996-97, which was the first year with a major increase in tuition fees - a twenty percent increase on average. The overall rate for universities dropped from 12.3 percent to 8.4 percent, and the range from highest to lowest was 4.9 percent to 19.5 percent, a major decline at the high end. The rates for CAATs and private vocational schools also declined, although not by as much. (Ministry of Training, Colleges, and Universities, Universities Branch, 2000)

These data should be regarded with caution and some skepticism. As yet neither the banks that hold the loans nor the Student Support Branch of the Ministry of Training, Colleges, and Universities have been able to disaggregate data to account for multiple registrations. For example, a student may have graduated from an undergraduate arts and science program without borrowing from the student loan program and then moved on to a program in law, perhaps at a different university, for which the student did borrow, and later defaulted. As databases are currently organized the two programs and universities cannot be separated, and default is recorded for both. This is a particular problem for many general arts and science programs in which students often enroll with the express intention of preparing for a professional program that can only be entered in upper years.

Rates of Participation

There are two basic methods of measuring rates of participation in higher education. The first is based on the percentage of a given age cohort - usually age 18 -- enrolled in the first year of post-secondary programs. This approach is favoured for making international comparisons. The second is based on the percentage of students in the final year of secondary school who, in the following year, are enrolled in post-secondary programs. This approach is typically used to express the rate of participation longitudinally within a given jurisdiction. For Ontario since 1987 the rates of participation are as follows:

Participation in University Education in Ontario, 1987 to 1997

Year	% of age 18 population in final year of school	% of previous year age 18 population in first year of university	% of previous final year of school in first year of university
1987	53.7	36.0	71.7
1988	48.8	38.1	71.0
1989	50.3	37.9	77.7
1990	41.7	37.9	75.4
1991	44.3	40.5	97.2
1992	48.1	41.0	92.7
1993	48.1	41.2	85.7
1994	47.0	40.8	84.9
1995	46.6	40.0	85.1
1996	43.8	40.1	86.2
1997	44.5	39.1	89.1

From these data there so far appears to be no correlation between rates of participation and the level of tuition fees. It is of some concern to observe that fewer students appear to be reaching the final year of secondary school. "Appear" is used very deliberately in this context. Changes in the secondary school curriculum in Ontario since 1990 have made it difficult to identify the final year of school precisely.

Tuition Fees and University Choice

The University of Toronto began to administer admissions surveys in 1978, and subsequently administered them in 1979, 1980, 1981, 1982, 1984, 1987, 1989, 1990, 1994, 1996, and 1998. With the partial exception of the 1998 survey, each survey was identical in terms of a basic slate of questions about the factors that influenced the students' choice of institution and program. The surveys thus constitute a longitudinal source of data which is unavailable anywhere else in Canada in regard to institutional choice.

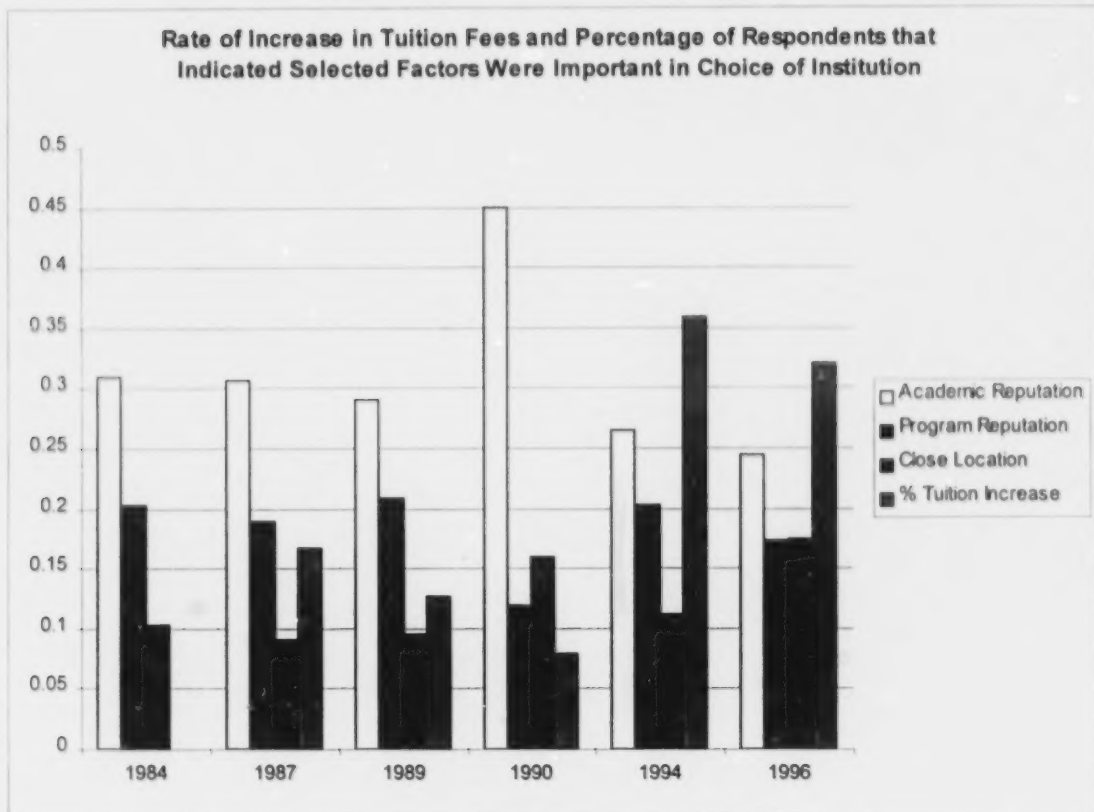
The students surveyed were those who had been offered admission to a direct-entry undergraduate program at the University of Toronto, whether or not the students had accepted the offer of admission. Thus the respondents to the surveys were not necessarily students at the University of Toronto. The results of the surveys thus are more broadly applicable than they might first appear.

The survey questionnaires were coded to allow connection to data bases that included more information about respondents (for example: gender, program of registration, final secondary school grades, address, and so on). Tabulations showing responses to the Admissions Surveys on factors that influence choice of institution include all respondents, regardless of which offer of admission they accepted. The tabulations are enclosed in Appendix B.

Between 1978 and 1982 each factor was listed on the survey as a separate question. Following that, between 1984 and 1996, respondents were asked to select three factors from a list of choices that were also listed on the 1978 to 1982 surveys. In consequence, the surveys had to be analyzed in two separate sets: 1978-1982 and 1984-1996. (There was no survey in 1983.)

Analyses of the surveys show consistent results across both sets and all years. The top three factors that influenced choice were:

- The institution's reputation for academic excellence.
- The good reputation of one particular program in which I [the student] was interested.
- The institution was located close to home.



A small drop was noted in the percentage of respondents who were influenced most by the institution's reputation for academic excellence from 1984 to 1996. During the same period a small increase was noted in the influence of institutional location. Otherwise the rank order positions of the several factors of influence have not changed significantly since 1978, which in turn indicates that changes in tuition fees have not affected institutional choice. The small increase in the preference for institutions located close to home could be the beginning of a trend that might in time indicate a statistically significant correlation between the cost of attending university and institutional choice. It is not possible, however to say that such a correlation exists now.

PUBLIC FUNDING AND PUBLIC POLICY

Patterns in Sources of Funding

Because of the social, cultural, and economic benefits that accrue from higher education to both individuals (private benefits) and society (public benefits), governments invest in universities in a variety of ways, some direct and some indirect. There are different types of funding formulas, there are negotiated grants, there are management contracts, and there are various earmarked or "targeted" funds (which in Ontario are customarily called "envelopes"). These all are allocative devices; none necessarily determines the amount of funds that are available for allocation to universities at large.

In addition, governments provide funding indirectly. There are government-regulated and mandated tuition fees - mandated in the sense that government funding formulas assume that the fees will be levied and collected; there are taxes, the proceeds of which are earmarked for universities; there are tax levies that require spending on universities; there are tax incentives that encourage private spending on universities; there are student aid programs that, in addition to promoting equity of access, provide a large part of the working capital of universities, particularly private universities in those jurisdictions that allow them.

Finally, governments are large-scale purchasers of university services, particularly research in jurisdictions in which research is not funded through funding formulas and targeted funding. In Ontario, all three sources of funding come into play in supporting research: the federal government, mainly through its research granting councils, provides research grants but in doing so assumes that the indirect and overhead costs of research, including professorial salaries and benefits, will be funded by the provinces, which in the case of Ontario they are, through the operating grants formula and through the Research Overhead and Infrastructure Fund (ROIF) envelope.

The array of funding devices and sources for universities in Ontario is thus quite large and varied. On the one hand, this can be regarded as the advantage of stability bestowed by diversity. On the other hand, such a complex and varied patchwork of funding makes planning difficult from the institutional standpoint and accountability problematic from the standpoint of government. From both standpoints the connections between funding and policy are tenuous. Yet, in Ontario if not in all Canadian provinces, it is the patchwork of funding schemes that defines the system of higher education. Remove the funding schemes and the semblance of system virtually vanishes.

Thus it is important to ask where universities stand in relation to governments, the sources of funding that they either provide or allow to be provided, and the means by which funding is allocated. The following table shows sources of funding over time.

From the following table it is obvious that there are differences between the provinces in the balances among the several sources of funding available to universities. In Ontario, along with Nova Scotia, Alberta, and British Columbia, provincial grants as a source of funds are no longer the a majority source of funding. Quebec, where provincial funding is about 62 percent of total university funding, is the only significant exception to what otherwise appears to be a clear trend across Canada. In Quebec the percentage of funding from provincial grants appears to be more a consequence of a policy about tuition fees than a policy about the government investment in universities per se.

Sources of Funding by Province, 1984-85 to 1996-97

	NS	Que.	Ont.	Alta.	BC
% Provincial grants					
1984-85	62.2	70.6	61.5	77.5	62.9
1996-97	39.1	61.8	41.6	47.4	48.8
% Fees					
1984-85	16.7	7.5	16.5	10.5	14.1
1996-97	25.5	12.4	22.3	18.8	15.2
% Other					
1984-85	9.7	10.9	9.3	4.2	7.9
1996-97	24.4	16.6	28.1	23.5	27.5

(Dupre, 1998)

Approximately four decades ago, in 1959-60, just over 35 per cent of university income came from provincial governments. That amount was almost matched by tuition fees at about 29 per cent. Direct federal grants, which were still available at that time, constituted another 20 per cent.

Moving forward roughly two decades to 1976-77 one sees a noticeable and important change. By then grants from the province constituted nearly 75 per cent of university income. At the same time government policy and the operating grants formula together tightly limited university tuition fees, which accounted for about 12 per cent of university income. The federal presence through direct grants to universities had disappeared. Ontario, unlike most other provinces, did not use the various EPF transfer algorithms as a surrogate device for allocating funds to higher education.

Moving forward a further two decades to 1996-97, one notes further remarkable changes. By then provincial support accounted for just less than half of university income while income from student fees were at just over 18.4 percent and on a clear upward trend. By 1996-97 sources of income that previously were so minor as to be typically categorized as "other" - gifts, bequests, investment income, sale of services, and other non-government funding - had risen from about five percent of total university income to 10 percent by the 1980s, and on to nearly 25 percent in the space of about two decades. In terms exclusively of sources of funding, over four decades Canadian higher education shifted from being mainly public and federal-provincial, to predominantly public and provincial, and finally to a nearly equal combination of public and private provincial. It is still appropriate to apply the term "provincial" to the private component of funding because, as in the case of Ontario, provincial governments continue to regulate tuition fees (albeit with greater parameters of institutional discretion) and to retain and exercise the authority to award degrees.

Intended and Unintended Outcomes

Taking the three principal strands in the rope that funds universities as an idiom of policy, it appears that each has its own origin and motivation.

Tuition Fees

The status of tuition fees, however, in at least two provinces - Ontario and Alberta - does seem to be the product of policy specific to higher education. In Alberta, the government has set an objective, which also is a ceiling, for tuition fee revenue as a percentage of operating income. The objective is 30 per cent. Specific fees are still to be set by universities individually within a framework of policy defined by the government. Basically the policy calls for fees to be set program by program on the basis of cost and future earnings.

Ontario's position is very similar but less explicit. There is neither an objective nor an upper limit for revenue from tuition fees as a source of total revenue. The de facto outcome, however, appears to be much the same. So in Ontario the percentage of revenue generated by tuition fees could exceed 30 per cent, which in a number of institutions it already did as an artifact of the province's operating grants allocation formula. Early in 2000, the Director of the Universities Branch, Ministry of Training, Colleges, and Universities delivered a speech on behalf of the minister in which a 35 percent cap was suggested, procedurally more or less along the lines of the cap in Alberta. Such a cap, however, is not officially in place.

A key and more or less unique feature of the Ontario policy on tuition fees is that universities (and colleges) must set aside 30 per cent of any new revenue from tuition fees for financial aid to students in need. Thus the net increase in tuition fees as a source of total revenue may bring Ontario more closely in line with Alberta, and may be a harbinger of how the suggested 35 percent cap might work in Ontario.

Although there is no explicit policy in Ontario which is comparable to the one in Alberta about the relationship of specific fees to program costs and the prospects of future earnings of graduates, the Ontario regulations implicitly assume such a policy, professional and graduate programs may have much higher tuition fees than other programs. Indeed, another aspect of the tuition fee policy in Ontario is that increases in fees may be required in order to fund the expansion of enrolment in certain professional and scientific fields for which the government judges the demand for graduates to exceed the supply.

The Alberta and Ontario policies beg two fundamentally important questions: how much do universities or governments know about the costs of programs, and how much do they know about manpower supply and demand? As a matter of fact, determining program costs in higher education accurately is usually difficult (Lewis and Dunbar, 1999). Very few universities actually do it. Determining marginal costs is far more difficult than determining average costs, yet the policies are implicitly about marginal costs. Finally and perhaps most importantly, both provinces' policies appear to be uninformed by the demonstrated fact that unit costs in higher education are determined mainly by the funding made available to universities (Bowen, 1980).

This is not a matter of institutional intransigence or indifference. PPBS (Program, Planning, and Budgeting System) was seriously tested in colleges and universities, as well as in the broader public sector, for a number of years without success (Balderston and Weatherly, 1972). A particular problem is the highly variable meaning of "program," which can be taken to refer to a degree credential (Birnbaum, 1983), an organizational unit (for example, a department or faculty that offers a credential), or a mode of delivery (for example, part-time or co-op) (Jones, 1996). Normally costs are associated with budgets, which are in turn associated with organizational units. But university departments and faculties often, in fact typically, offer more than one degree credential (Huisman, 1998, Lang, 1999).

Governments, including Ontario governments, tend to think of costs in terms of cost to government, and specifically the costs as defined by their funding formulas. Thus what is a cost to government is revenue to universities. Yet it is worth noting in this context that the manual for the Ontario operating grants formula expressly states that the formula should not and cannot be used to determine the internal allocations of the revenue shares that the formula generates (Ministry of Education and Training, 1997). Moreover, like most funding formulas, the Ontario operating grants formula is intrinsically linear and based on averages; in other words, while programs are funded differently, institutions are not; and all programs within a given category are assumed to have the same costs. Special grants for bilingual programs and northern universities are the only real exceptions to average funding. But cost studies demonstrate the significance of institutional size for the per student costs of instruction (Toutkousian, 1999).

One might assume that because universities in Ontario are offering "self-funded" or "privatized" programs, there must be a reliable means of determining the direct,

indirect, and overhead costs of programs. Such an assumption, unfortunately, would be wrong. There are several reasons for this.

First, the government has no real policy on such programs. They are unregulated as long as they are not eligible for operating grant funding. Thus the meaning of "self-funded" or "privatized" is largely a matter of institutional interpretation.

Second, these programs, which in the majority of cases lead to the MBA, are a good example of the problematic use of the term "program." These notional programs are degree credentials that are offered by faculties that offer several credentials, of which the others are not self-funded or privatized. It should not be surprising, then, that the putative overhead recovery rates at the Ontario universities that offer self-funded or privatized programs vary widely.

Third, because in Canada the indirect and overhead costs of research are funded for the most part along with other institutional costs, including notably the costs of instruction, even the costs to government of instructional programs cannot be isolated. Yet, all of the nominally self-funded or privatized programs that are currently being offered in Ontario are exclusively instructional.

Fourth, most of these programs were not introduced on a self-funded or privatized basis because they would be inherently different from other academic programs; they were introduced on that basis because it allowed a way around what were regarded as unrealistic and unreasonably restrictive tuition fee regulations. With the new tuition fee policies in Ontario there may no longer be an incentive to offer programs on a self-funded or privatized basis.

Forecasting manpower supply and demand is generally difficult and highly problematic, but for higher education it is particularly difficult and uncertain (Berg, 1970). There are legitimate reasons for that difficulty: university programs are from three to five years in length, and for certain fields and professions more than one degree is required. This means that short-term forecasting methods cannot be applied reliably to university programs. An example from Ontario is the disconnection between the education and employment of radiation therapists, which occurred, in the late 1980s. Concerned about a pressing shortage of radiation therapists, the government called for an expansion of existing programs and in a very usual step allowed teaching hospitals affiliated with universities to offer training programs. By the time most students had finished their programs employment opportunities for them had declined to the extent that many were either unemployed or had to find employment in other provinces and U.S. states.

So, while the Alberta and Ontario policies on tuition fees might seem to be clear, meaningful, and enforceable in terms of being based on program costs and an future earnings of graduates, there is no track record that suggests that they actually will be. There is a risk here for government and, by implication, for universities. Students and increasingly their parents who accept or at least tolerate high tuition fees because of the

prospect of future employment and earnings will, not unreasonably, expect those prospects to be fulfilled. A promise thus implied is a promise for which the government and the universities will probably be held accountable.

Even if those policies were more definitive, other policies may mitigate their intended outcomes in Ontario. The first is the aforementioned requirement that 30 per cent of added revenue from tuition fee increases must be spent on need-based student financial aid, regardless of program of registration. The second is the Ontario Student Opportunity Trust Funds (the OSOTFs) which by the 2000-2001 academic year should reach province-wide value of approximately \$600 million. While the OSOTF funds are often attached to specific programs, that attachment is based on neither program cost nor the future earnings of graduates.

At the federal level, the value of Canada Millennium Scholarships will not be directly related to differentiated tuition fees, nor will the Canada Education Savings Grants that are attached to the Registered Education Savings Program. The proposed federal tax credits for student loan interest payments and the provincial loan forgiveness provision within OSAP are the only collateral policies that might be regarded as being in synchrony with the province's tuition fee policy that allows higher fees differentiated by program.

Reductions in Operating Grants

Reductions in government operating grants have been in almost all provinces "across the board" and have been part of larger reductions in funding to the public sector generally. This has clearly been the case in Ontario where each of the last two governments has imposed major cut-backs in university funding which, in percentage terms, have been the same for colleges, schools, and hospitals as well as universities. The extent to which these cutbacks in funding have altered the patterns of funding for higher education in Ontario does not appear to be in any way an expression of policy towards universities per se. It is instead the by-product of a larger budget balancing cum tax reduction policy.

Across the board reductions, however, do not necessarily translate into equal net changes at the institutional level. Although funding formulas are often promoted as being neutral in terms of policy, most in fact are not. (Lang *et al.* 1989) The funding formula in Ontario is not an exception. A peculiar characteristic of the formula in Ontario is a major asymmetry between the range of weights that are assigned to programs to reflect various costs and the range of "formula" tuition fees that the algorithm of the formula assumes universities will collect. The former range is much wider than the latter. The practical effect is that universities with higher weight graduate and professional programs attract a smaller percentage of their total income from tuition fees, and universities with predominantly undergraduate programs attract a higher percentage. (That explains why at some universities in Ontario revenue from tuition fees already is well above the 30 per cent ceiling that applies in Alberta.)

Because of this idiosyncrasy in the Ontario funding formula, the across-the-board reductions that have been made in operating grants since 1991 have affected research-intensive universities - that is, universities with higher proportions of graduate and second-entry professional enrolment - more than other universities because, for the research-intensive universities, less of the lost operating grant funding could be offset by increases in tuition fees. Of the major reduction imposed by the current government on operating grants (\$280 million in 1995-1996) the amount that could not be offset by increases in tuition fees ranged, institution by institution, from 34 per cent at the Ontario College of Art and Design to 73 per cent at the University of Toronto; the median was about 54 per cent.

The Ontario operating grants to universities also include a series of so-called "non-formula" grants or "envelopes." Some non-formulas grants are available to all institutions but are allocated on a basis different from the operating grants formula. For example, the envelope for access for disabled students is universally available and allocated on the basis of enrolment by headcount. Another example is the research overhead and infrastructure envelope, which is allocated on the basis of each institution's performance in attracting peer-adjudicated research grants. Other envelopes supplement the operating grant; for example, three universities - Laurentian, Ottawa, and York - have access to a special fund for bilingual instruction. At one time, separate decisions were made about the increase or decrease to be made in each of these envelopes. But in the 1990's, with few exceptions (mainly the disabled access envelope), increases and decreases have been across the board, and at the same rate that applied to the operating grant. When they have not been, however, the differential effects have been powerful because some institutions are more dependent than others on the non-formula grants. For example, in 1994-95 over 23 per cent of Laurentian University's funding from government came from non-formula grants; while, at the other end of the scale, less than one per cent of Brock University's and Wilfrid Laurier University's public funding came from that source.

So, what began apparently from a policy perspective as an across-the-board reduction ended up as a highly differentiated reduction at the institutional level. Also, while the juxtaposition of the announcements of reductions in operating grants and of increases in tuition fees implied a replacement effect that would leave accessibility and program quality uncompromised; in fact no university was able to replace all of its lost grant income with tuition fee income.

Other Income

Whether intended or not, the Ontario government's combination of reductions in operating grants and increases in tuition fees left a major shortfall in funding for the province's universities. That shortfall is even greater when the 30 per cent of new tuition fee revenue that has to be set aside for student financial aid is taken into account.

Some of the shortfall has been made up by increases in a sector of revenue which, with one exception, appears not to have been recognized by government policy. This is

the sector of revenue which comprises gifts, bequests, income from investments (which for most universities is the product of previous gifts and bequests), sale of services, and other miscellaneous revenue. Across Canada, this category of revenue increased by 250 per cent in the decade that ended in 1996-1997. In Ontario the increase was even greater, just over 300 per cent. As great as that increase seems, the increases in Alberta and British Columbia were greater. Ontario, however, might overtake those provinces by 2000-2001 when the Ontario Student Opportunity Trust Fund reaches its full scale, which is projected to be \$600 million, that in turn will produce between \$30 million and \$60 million in annual revenue.

It is important to keep in mind that "other income" includes revenue from investments. The financial performance of stock and bond markets during the last decade has been so strong that the increase of this component of university income should be seen as neither surprising nor the product of government funding policies.

The sale of services component of "other income" has always been considerable. It includes some obvious enterprises like parking, student residences, food services, bookstores, and university presses. Some less obvious sales of services include: participation in municipal heat generation grids; the provision of generic services to other institutions, including other colleges and universities; the operation of medical, dental, and veterinary clinics; the operation of elementary and secondary laboratory schools that charge fees; and soil testing services. This list is not exhaustive. What must be recalled, however, is that these services - usually called ancillary or auxiliary operations - are expected if not required to recover their costs, including indirect and overhead costs. Hence the revenue that they generate is in many cases offset by their costs, leaving little or no net gain.

The greatest increase, and the increase of greatest concern, has been in the sale of research services (Newson and Buchbinder, 1988, Dupre, 1998). For example, in just the five years (1991-1996) income to Canadian universities from patents and royalties increased by 400 per cent to over \$16 million. Of the four leading universities in attracting this type of income, two were in Alberta and two were in Ontario (AUTM, 1997).

Revenue from research grants and contracts from the private sector has also increased sharply, by over 300 percent from \$55.3 million to \$178.3 million. (AUTM, 1997). These increases must be tempered by the fact that neither Canadian industries nor Canadian universities are as methodical as their American counterparts in, first, accurately determining the indirect and overhead costs of research and, second, in recovering those costs. So, the net gain in revenue is probably smaller than the gross gain by some considerable measure.

Whether or not government anticipated the current levels of research conducted by Canadian universities on a business basis for the private sector, they were in Ontario promoted by government. The prior Liberal and NDP governments initiated and continued the Centres of Excellence and University Research Infrastructure Fund (URIF),

both of which were accessible only by universities in formal collaboration with private industry. The NDP government started the Ontario Centre for Large-Scale Computing (OCLSC) largely on the assumption that the centre would be heavily subscribed by private firms. The following Progressive Conservative government cancelled the URIF program and the OCLSC but renewed the Centre of Excellence program.

Setting aside the problematic question about whether or not current levels of university-industry research collaboration were intended and caused by government policy, there are two very significant initiatives that clearly aim to continue the trend. The Canadian Foundation for Innovation and the Ontario Research and Development Challenge Fund (which more or less complements the CFI) are major funding programs that depend to a large extent on matching funding from the private sector, and from the universities' existing resources. Both programs are essentially sinking funds that the governments regard as investments from which there will be returns in terms of economic growth. The interest of firms in the private sector appears to be along the same lines: the funds represent a business opportunity more than a philanthropic opportunity.

In terms of solving funding problems, neither the CFI nor the R&D Challenge Fund can be regarded as offsetting reductions in operating grants. First, the funding is clearly "one time only." Second, universities must redirect or raise their own funds in order to attract the government funding at a ratio 2:1. Thus from the point of view of net effect a university could in some cases be worse off by participating in the programs. What the CFI and R&D Challenge funds are more likely to do in terms of public finance is provide capital funding to offset the effects of depreciation. No provincial government in Canada has a regular program for funding depreciation on plant and equipment.

The Effects of Government Funding Policies

One of the questions asked with respect to university financing is whether the changing levels of funding have led to significant changes in the relative proportions of total operating funds allocated to the various expenditures and functions of the universities. If there were significant and disproportionate changes, one might conclude that changes in government funding - either in form or amount - were having an unintended policy effect on certain university activities or populations. For example, reductions in spending for student services would primarily disadvantage students.

There were two ways of addressing this question through statistical analysis. The first involved data contained in the annual reports of the Council of Finance Officers - Universities of Ontario, usually referred to as COFO-UO. The COFO-UO reports include for each university data on income and expense by several formally defined and consistently reported categories. COFO-UO reports for the last ten years were examined.

The second source of data was the reports submitted by universities to *Maclean's* as part of the magazine's annual survey and ranking. These reports were available for the period from 1992 to 1997. It is important to explain that these reports were not the information that appears in *Maclean's* survey, which is mainly a series of indices

calculated by the magazine from the data contained in the reports. The reports contained the raw data that were submitted to *Maclean's*. By mutual agreement, universities also submit these reports to the AUCC, which then assembles a nation-wide data set. The analysis was based on that data set as well as on the data in the COFO-UO reports.

The basic question, then, was about the correlation between income and expense. To address this question, a breakout of actual operating expenditures by object of expense and by functional area, as displayed in Table 4 in each annual institutional COFC-UO report, was examined for the period 1986-1997 through 1996-1997. The operating expenditures account for roughly 70 per cent of all university expenditures and exclude ancillary expenditures (roughly 10 per cent), sponsored research (roughly 15 per cent), and trust and endowment (roughly 5-6 per cent). Table 1 below displays for each year of the period, the breakout of total operating expenditures by object of expenditure (salaries and wages, benefits, library acquisitions, etc.) expressed as a percentage of total operating expenditures. Table 2 displays the same information, but broken out by function (for examples, instruction and research, library, student services).

TABLE 1

OBJECT OF EXPENSE AS PERCENTAGE OF TOTAL OPERATING EXPENDITURES

		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	Average
1	Salaries and Wages												
	(A) Academic Ranks	38.51%	38.80%	39.01%	38.57%	37.90%	37.39%	37.07%	37.33%	36.17%	35.27%	34.71%	37.34%
	(B) Other Instruction Research	3.85%	3.86%	4.05%	4.18%	4.27%	5.18%	4.91%	5.11%	4.64%	4.48%	4.84%	4.49%
	(A) + (B)	42.35%	42.66%	43.06%	42.75%	42.16%	42.57%	41.99%	42.44%	40.81%	39.75%	39.55%	41.83%
	(C) Other Salaries and Wages	28.07%	28.27%	28.56%	28.75%	28.63%	27.48%	27.86%	27.84%	28.28%	28.96%	28.19%	28.26%
2	Employee Benefits	8.75%	8.20%	8.13%	8.01%	9.27%	10.44%	10.94%	9.91%	10.27%	9.88%	9.92%	9.43%
3	Library Acquisitions	2.24%	2.23%	2.26%	2.20%	2.12%	2.09%	2.14%	2.24%	2.37%	2.55%	2.80%	2.29%
4	Equipment Purchase, Rental, and Maintenance	5.09%	4.55%	3.82%	3.84%	3.47%	3.21%	3.21%	3.25%	3.41%	3.55%	3.65%	3.73%
5	Operational Supplies and Expenses	4.94%	5.03%	5.22%	5.27%	5.26%	4.83%	4.62%	4.30%	4.58%	4.54%	4.68%	4.84%
6	Cost of Goods Sold	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	Utilities	3.20%	3.12%	3.01%	3.04%	2.82%	2.92%	2.91%	3.23%	3.23%	3.28%	3.25%	3.09%
8	Municipal Taxes	0.56%	0.77%	0.76%	0.73%	0.67%	0.64%	0.64%	0.66%	0.65%	0.64%	0.66%	0.67%
9	Renovations, Alterations, and Major Repairs	0.58%	0.62%	0.60%	0.69%	0.63%	0.84%	0.71%	0.62%	0.65%	0.69%	0.51%	0.65%
10	Externally Contracted Services	1.09%	1.23%	1.23%	1.19%	1.25%	1.31%	1.30%	1.37%	1.37%	1.42%	1.16%	1.27%
11	Scholarships, Bursaries, Etc.	0.85%	0.93%	0.91%	0.96%	1.00%	0.99%	1.20%	1.33%	1.51%	1.63%	2.48%	1.25%
12	Principal and Interest Payments	0.07%	0.09%	0.12%	0.10%	0.25%	0.18%	0.14%	0.25%	0.48%	0.35%	0.18%	0.20%
13	Land and Site Services	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	0.02%	0.00%	0.01%	0.01%	0.01%	0.01%
14	Buildings	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
15	Miscellaneous	2.62%	2.82%	2.95%	2.94%	2.91%	2.88%	2.82%	3.02%	3.14%	3.57%	3.95%	3.06%
16	Internal Cost Allocations	-0.43%	-0.54%	-0.64%	-0.48%	-0.46%	-0.41%	-0.49%	-0.47%	-0.75%	-0.83%	-0.99%	-0.59%
Total		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

TABLE 2

FUNCTIONAL EXPENSE AS A PERCENTAGE OF TOTAL OPERATING EXPENDITURES

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	Average
Instruction and Research												
All Excluding Medicine	59.45%	59.67%	59.78%	59.74%	59.95%	59.69%	59.57%	59.00%	58.55%	57.28%	57.49%	59.12%
Medicine	<u>5.26%</u>	<u>5.12%</u>	<u>5.10%</u>	<u>4.80%</u>	<u>4.74%</u>	<u>5.08%</u>	<u>4.85%</u>	<u>4.90%</u>	<u>5.28%</u>	<u>6.47%</u>	<u>6.37%</u>	<u>5.27%</u>
Sub-total	64.71%	64.79%	64.89%	64.54%	64.69%	64.77%	64.42%	63.90%	63.83%	63.75%	63.86%	64.40%
Library	7.30%	7.14%	6.97%	6.94%	6.80%	6.83%	6.98%	7.05%	7.02%	7.21%	7.27%	7.05%
Central Computing	3.83%	3.71%	3.54%	3.49%	4.29%	4.15%	3.98%	4.03%	4.06%	4.29%	4.07%	3.95%
Student Services	3.39%	3.41%	3.40%	3.67%	3.91%	3.92%	4.36%	4.40%	4.68%	4.73%	5.76%	4.15%
Administration	6.58%	6.61%	6.81%	6.97%	6.91%	6.65%	6.67%	6.71%	6.26%	6.21%	5.78%	6.54%
Physical Plant	12.59%	12.54%	12.30%	12.19%	11.21%	11.48%	11.32%	11.57%	11.42%	11.38%	11.06%	11.73%
Other	1.60%	1.80%	2.09%	2.20%	2.19%	2.20%	2.27%	2.34%	2.73%	2.44%	2.20%	2.19%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.01%	100.00%	100.01%

During the period under consideration many universities in Ontario introduced, and several vigorously promoted, early retirement schemes for both faculty and staff. This was done for at least two reasons. The first was in the expectation that it would reduce costs and improve productivity. The second was to introduce "new blood" where there had been little or no hiring due to constrained funding in prior years. Since the average faculty member entering at the starting level can expect a salary increase roughly two-and-a-half times the base over their working life it was evident that substantial savings could be realized by substituting junior faculty for senior faculty while leaving the faculty complement unchanged. Any such substitution, however, would have had to have been carried out with great care to ensure the integrity of both undergraduate and graduate programs as well as ongoing research programs.

For non-faculty appointments, such substitutions typically provide fewer savings since staff are hired for certain experience and expertise which command a certain salary level and in some cases, for example stationary engineers, legal requirements which must be met. It would be reasonable to expect, therefore, that the fraction of expenditures devoted to faculty salaries would decline over the period.

Examination of Table 1 shows that while there have been year to year fluctuations, this expectation of a decrease in the percentage of expenditures devoted to salaries of faculty in the academic ranks appears to have been correct. On the other hand, the percentage of expenditures devoted to those classed as "Other Instruction and Research" has increased over the period, which suggests that some substitution might have occurred. In addition, the percentage of expenditures devoted to benefits has increased over the period, and so if total compensation were considered, the decline would be less than that indicated by salary alone.

Has the shift in balance between the expense of academic salaries and the expense of other instructional and research salaries been translated into comparable changes in complement? The answer appears to be that it has not been. From 1986-1987 to 1997-1998, the total number of full-time equivalent faculty in Ontario universities declined by 6.4 percent. During the same period full-time equivalent enrolment increased by 13.5 percent, thus producing a net gap of 19.9 percentage points. So, faculty workload has indeed increased.

It does not seem, however, that the composition of the faculty workforce has changed significantly. In 1986-1987, 13.6 per cent of total full-time equivalent faculty held full-time, contractually limited term appointments outside the tenure stream. The comparable percentage in 1997-1998 was 12.4. In 1986-1987, 12.7 percent of all full-time equivalent faculty held part-time appointments. By 1997-1998 that figure had risen to 14.1 percent. The percentage of faculty holding full-time tenure stream positions barely changed over the period: in 1986-87 the percentage was 73.7 while in 1997-1998 it was 73.6.

Other changes that can be observed by inspection of Table 1 are:

- a trend downward in the percentage of expenditures devoted to capital assets.
- an apparent trend upward, despite some fluctuation, in the percentage of total expenditures on library acquisitions (but not library operations)
- a trend upward in the percentage of expenditures devoted to scholarships and bursaries

To test whether the observed changes are statistically significant when considering the relative share of the total operating expenditures allocated to each of the 18(17) categories, the following approach (Hald, 1952) was adopted. It was assumed that each year (1..k) represented a random sample of a grouped distribution, the classification (1..m) being the object of expenditure, and the theoretical value for each category being given by the value averaged over the years. A *Chi-squared* value with $(m-1)(k-1)$ degrees of freedom was then calculated for the array. Two separate calculations were performed. The first treated the academic rank salaries and other instruction and research as two separate categories (18 categories in this array); the second summed over both salary totals and treated them as a single category (17 categories in this array). In neither case was the *Chi-squared* value found to be significant. As can be expected, the *Chi-squared* value in the second instance was somewhat less (5.7 as opposed to 6.4) since there was less variation in the combined salary groupings than in the salary groupings taken individually.

Turning to Table 2 and the breakout of expenditures by function, one may observe that, apart from student services which shows a steady upward trend and physical plant which shows a steady downward trend, the percentage expenditures allocated to each category show approximately as many upward changes as downward changes. In the case of the percentage expenditures devoted to instruction and research, excluding medicine, the three year period 1993-1994 to 1995-1996 shows a decline which, at least in the case of 1994-1995 and 1995-1996, may reflect the drop in academic salaries observed in Table 1.

To some extent this is offset by increases in the percentage of expenditures devoted to instruction and research in medicine. It is also of interest to compare the data on library acquisitions presented in Table 1 with those on the total library function, which includes in addition to acquisitions, equipment, staff salaries, and operational supplies. The data suggest that within library budgets priority has been given to acquisitions over other items of expenditure.

To test whether or not the data indicate a statistically significant change in the relative share of the expenditures allocated to each of the functions the same method of analysis applied to the Table 1 data was applied to the Table 2 data. Once again two sets of calculations were performed. One treated instruction and research expenditures for medicine and for all others as two separate categories; the other combined the two into a single category. In neither case were the changes observed statistically significant.

In summary whether the data are analyzed on the basis of allocations to objects of expenditure or allocations to function, the observed changes are found to be statistically insignificant. Inspection of the allocation by function data reveals that with the notable exceptions of student services, which shows a steady upward trend, and physical plant, which shows a steady downward trend, the year to year changes fluctuate both upward and downward. Inspection of the allocation of object by expenditure data shows that no category displays a monotonic increase or decrease, although the expenditures on scholarships and bursaries come close.

In the case of student services the expense pattern may be explained by an ironic combination of higher ancillary (not tuition) fees for those services and relatively recent government policy. Surrounded by much controversy, new and additional fees were levied in the late 1980s and early 1990s for a number of student services. When the NDP government announced tuition fee increases it at the same time sought to limit increases in ancillary fees for student services. A new policy on ancillary fees was introduced which limited new fees and fee increases for student services to those allowed by formal protocols that had to be negotiated by universities with student governments.

Although seen as a technicality at the time, the new policy on ancillary fees required that revenue from the fees could be spent only on the student services specified by the policy and the individual protocols. This aspect of the policy has had the effect - probably unintended by the government -- of protecting student services from reductions in operating grants.

The downward trend in spending on physical plant, in contrast to the upward trend in spending on student services, is probably more serious than the analysis suggests. As spending on building renovations, alterations, and repairs declined by approximately nine per cent over the period of the analysis, the inventory of space in Ontario's universities increased by 20 per cent. If universities actually budgeted for the depreciation of their physical assets, the cost of this shortfall in funding would approximate \$600 million province-wide.

Finally although the calculated *Chi-squared* values are not statistically significant, it is instructive to examine which factors make the greatest contributors to the total. If one sums the categories for each year and determines for which year the changes are greatest, one finds that the 1996-1997 year is the largest contributor, followed by 1986-1987, the year just prior to a major change in the operating grant formula, and to the introduction of temporary "accessibility" funding. This is true whether analysis by function or by object of expenditure is considered. If one sums across the years for each category, then it is found that in the case of the objects of expenditure the greatest contributor is scholarships and bursaries, followed by employee benefits. In the case of allocations to function the greatest contributor is allocation to instruction and research (excluding medicine) followed by student services. It is worth noting that if the analysis is performed combining medicine with all other instruction and research, this category is no longer a major contributor and student services becomes the largest contributor, followed by the category "other."

The other source of financial data available for analysis was the data set collected by the Association of Universities and Colleges of Canada (AUCC), based on the data submitted to *Maclean's* for their annual surveys. This data set was of shorter duration (1992-1997) than the COFO-UO data set and was collected over several jurisdictions as opposed to a single jurisdiction; it is, at present, probably somewhat less reliable than the COFO-UO data set. Despite this, and despite some missing fields, it is of interest to examine the data because they permit comparisons of Ontario universities and the universities in other parts of the country, and because in certain areas of spending they provide a greater level of detail.

The financial data in the *Maclean's*/AUCC data set, in particular, permit an analysis of the percentage of budget devoted to scholarships and bursaries and of the percentage of budget devoted to student services. Such analysis also provides an object lesson in the care that must be taken in carrying out comparisons as will be evident in the following paragraphs. Prior to carrying out the analysis, the *Maclean's*/AUCC data set was examined for possible lacunae.

It was found that some universities had financial data missing for at least two of the years for which data had been collected. These institutions were: University of Montreal, Carleton University, University of Regina and Nipissing University. These universities were therefore excluded from the analysis. In addition the University of Manitoba and Winnipeg University had one year in which financial data were missing and since this was in the middle of the series these institutions were also omitted from the analysis. Finally, in 1997, some financial data were missing from the York data set. Since this lacuna occurred at the end of the period under analysis, and since York represents a significant portion of the Ontario system, the analysis were performed for the period 1993 - 1996, including York, and 1993 - 1997, excluding York.

The following table displays the amount devoted to scholarships and bursaries expressed as a percentage of total operating budget for the period 1993 through 1997 in the case where York is excluded, and 1993 through 1996 where York is included, for these categories: all Canadian universities in the *Maclean's*/AUCC data set with the exclusions noted, all Ontario universities, with the exclusions noted, and all non-Canadian universities with the exclusions noted.

Scholarships and Bursaries as a Percentage of Total Operating Revenue

	1993	1994	1995	1996	1997
	%	%	%	%	%
* Canada1 (w/o York)	3.3832	3.7289	3.9482	4.4396	4.9125
* Canada2 (with York)	3.2677	3.6554	3.8736	4.3627	NA
** Ontario 1 (w/o York)	3.2096	3.9755	4.1705	4.4922	5.0338
** Ontario 2 (with York)	3.0053	3.7966	4.0003	4.3390	NA
*** Non-Ontario	3.5484	3.5186	3.7412	4.3886	4.8006

* Excludes Manitoba, Montreal, Carleton, Concordia, Regina, Nipissing and Winnipeg apart from York.

** Excludes Carleton and Nipissing apart from York

*** Excludes Manitoba, Montreal, Concordia, Regina, and Winnipeg

For Canada as a whole the universities increased the amounts devoted to scholarships and bursaries by a significant amount over the period. These amounts, when expressed as a percentage of operating budgets, increased by 33 percent over the period 1993 to 1996 and by 50 percent over the period 1993 to 1997. This latter increase, of course, excludes York, which might reduce the percentage somewhat but not significantly.

When one contrasts the Ontario experience with that of the rest of Canada it will be seen that while in 1993 Ontario lagged behind the rest of Canada, by 1996 it had caught up with the rest of Canada and by 1997 had surpassed it. Once again the 1997 data exclude York, which might somewhat reduce the Ontario figure, but not below the figures for the rest of Canada. Expressed differently during the period 1993 to 1996, the rest of Canada increased the amounts (expressed as a percentage of operating budget) devoted to scholarships and bursaries by 24 percent while the Ontario universities increased the amounts by 44 percent. Over the period 1993 to 1997, the increase by Canadian universities, excluding Ontario, was 35 percent, while the Ontario increase was 57 percent (this latter figure excludes York).

And now to the first object lesson. Perceptive readers will already have noted that the amounts devoted to scholarships and bursaries expressed as a percentage of operating expenditures displayed in Table 1 above are roughly twice the size of the percentage displayed in the table displaying objects of expense in the analysis of COFO-UO data. The explanation is straightforward. The COFO-UO data displayed only expenditures from the operating fund and expressed these as a percentage of the total. The *Maclean's*/AUCC data, on the other hand, while still using total operating expenditures as the divisor, include in the numerator expenditures on scholarships and bursaries regardless of the source of funds. To illustrate: in the 1994-1995 year in the Ontario

system a total of \$40,183,000 of operating funds was devoted to scholarships and bursaries. When divided by total operating expenditures of \$2,697,232,000, this leads to the figure of 1.51 percent displayed in the COFO Object of Expense table.

But in 1994-1995 funds were also allotted to Scholarships and Bursaries from restricted funds - namely Trust and Endowment Funds and Sponsored Research - amounting to \$41,126,000 and \$3,801,000 respectively. There was also a small allotment of \$492,000 from fees for non-credit courses and programs. The resulting total devoted to scholarships and bursaries from all sources is thus \$86,232,000 which, when divided by the total operating expenditures figure of \$2,697,232,000, leads to a figure of 3.2 percent, a figure much closer to that reported in the *Maclean's/AUCC* data. Of course, one might argue that if the numerator includes the amounts from all sources the denominator should also include expenditures from all sources. If that is done, the resulting percentage is 2.03.

One further point emerges from a comparison of the COFO-UO table and the *Maclean's/AUCC* data. In 1992-1993 the percentage of operating expenditures devoted to scholarships and bursaries by Ontario universities was 1.2 per cent; by 1996-1997 it had more than doubled to 2.48 per cent. This contrasts with the increase in total expenditures on scholarships and bursaries which according to the *Maclean's/AUCC* data show only 57 per cent increase for Ontario. In other words, the major portion of the increase for Ontario was attributable to an increase in the amount allotted from the operating funds. This might be expected since restricted funds are just that - restricted -- and universities are limited to the disbursements they can make under the terms of the endowments and by the fact that endowment and trust funds grow slowly. It is also what might be expected given the government's policy that requires that 30 cents of every \$1 raised from increases in tuition fees has to be added to spending for student financial aid.

The table that follows parallels the previous table but the numerator is now monies spent on Student Services as opposed to Scholarships and Bursaries. Changes in this instance are less marked, with all Canadian universities showing a 13 per cent increase in percentage expenditures over the period 1993-1996, rising to 16 per cent for the 1995-1997 period. At the start of the period Ontario universities were seen to be allotting a greater percentage of operating expenditures to student services than was the rest of Canada. During the period, Ontario universities increased the amounts expressed as percentage by roughly eight per cent, while the rest of Canada increased their amounts by roughly 20 per cent. As a result the amounts for Ontario and the rest of Canada converged although Ontario was still somewhat higher than the remainder of the country.

Once again the differences in the two data sets - COFO-UO and *Maclean's/AUCC* - should be noted. In the COFO-UO table that displays Functional Expense as a percentage of Total Operating Expenditures, the function, "Student Services" includes expenditures on Scholarships and Bursaries from operating funds. The *Maclean's/AUCC* data in Table 2 exclude these expenditures.

Student Services as a Percentage of Total Operating Revenue

	1993	1994	1995	1996	1997
	%	%	%	%	%
* Canada1 (w/o York)	3.7829	3.9202	3.8631	4.1516	4.4103
* Canada2 (with York)	3.7811	3.9408	3.8856	4.2387	NA
**Ontario1 (w/o York)	4.2411	4.5744	4.2416	4.3610	4.6135
**Ontario2 (with York)	4.1871	4.5380	4.2444	4.5049	NA
*** Non-Ontario	3.346	3.3624	3.5107	3.9485	4.2230

* Excludes Manitoba, Montreal, Carleton, Concordia, Regina, Nipissing and Winnipeg apart from York.

** Excludes Carleton and Nipissing apart from York

*** Excludes Manitoba, Montreal, Concordia, Regina, and Winnipeg

In summary, with the exception of the increase in spending on scholarships and bursaries, it appears that government policy has had no steering effect on how universities have accommodated reductions in operating grant funding. Each university appears to have accommodated the reductions according to its own plans and priorities. The only perceptible trends are: (1) slight increases in the proportions of spending on student services, which may be due to an unintended effect of the ancillary fee policy that was introduced by the NDP government; and (2) significant decreases in spending on the upkeep of physical plant, which appears to have no relation at all to government policy or practice.

None of these findings can be taken to mean that the reductions in government funding have not done damage. They have. What the findings do indicate, however, is that the last three governments in Ontario have not sought to restructure or steer universities through financial policy. Nor have they sought to curb or invade institutional autonomy as the Progressive Conservative did to schools and boards of education through a new funding model and formula (Ministry of Education and Training, Education Finance Branch, 1999)

Can Education Markets Be Public?

How "Private" is Privatization?

Marketization in higher education is a widespread phenomenon, and as such as been documented in Europe, the United Kingdom, Australia and North America. In many Western countries, governments have historically played a major role in delivering and subsidizing university education and research. Now subject to greater global pressures, these governments are introducing major reductions and a re-organization in the ways in which public services are delivered. For higher education, this means an increase in government interest in earmarked funds, competitive matching programs (as evident in Ontario), higher user fees, and greater information available for prospective

"customers", with the aim of creating a more "perfect" market. Many of these strategies have superseded the homogenizing effects of traditional funding formula. These policies have had dramatic effects on resource allocation and the distribution of funds among universities. Some even involve outright privatization.

In Canada, the governments of Alberta and Ontario have taken steps towards the privatization and marketization of various public services. In Ontario, when the Progressive Conservative government formed the Advisory Panel on Future Directions for Post-Secondary Education [the Smith Panel] in 1996, its instructions to the panel included consideration of some degree of privatization in the post-secondary education sector. Otherwise, the Progressive Conservative government in Ontario has taken no obvious or definite steps in the direction of the privatization of higher education.

This is true not only of higher education. For example, while there were many signals that Ontario Hydro would be privatized, it was in the end only reorganized. No changes were made in either *The Power Corporation Act* or *The Ontario Energy Board Act*, both of which would have to be amended to allow for privatization. Similarly, the Liquor Control Board of Ontario was not privatized. The declawing of the Ontario Highway Transport Board to allow deregulated bus transportation was promised but never took place. In each of these cases the government's preference seems to be for less regulation and more competition without actual privatization.

In higher education, one might argue that the government has moved in a direction opposite from privatization. By allowing extensive institutional discretion to set tuition fees for graduate and professional programs the government has removed the principal reason for some universities' having established various self-funded or notional privatized programs (mainly MBA programs) in the last decade. Because of the extremely poor performance of private vocational schools in seeing students through to graduation and in minimizing loan defaults by former students, the government has introduced a number of fiscal and regulatory measures that will put some of those schools under severe pressure. Late in 1999 the financial collapse of a major private business college was due almost entirely to those measures, as the government refused to extend OSAP loan eligibility to its students.

It is important to understand what the government appears to mean when it refers to privatization. The question that was put to the Smith Panel was not about transferring public programs and institutions to the private sector, which is what privatization normally entails in other contexts. What the Smith Panel was asked to advise on was whether or not the government should allow other and new private universities to operate in Ontario alongside the existing public institutions. This question implies something quite different from transferring public assets to the private sector. Instead, it implies an economic point of view that would encourage competition by breaking the degree-granting monopoly that *The Degree Granting Act* implicitly confers on public universities. Whether or not this is indeed the government's motivation is unprovable. But what does seem relatively certain is that what the government means by privatization in higher education is so far different from what it means elsewhere in the public sector.

It also suggests that the intuitive and somewhat casual identification of marketization with privatization is mistaken. Marginson, in his study of educational markets in Australia, has already observed that, in the interaction between governments and institutions, privatization does not necessarily create markets (Marginson, 1997). The same appears to be true at the next level down between universities and their colleges and faculties. More than a third of the universities that have adopted Responsibility Centre Budgeting in one form or another are private, which in turn indicates that simply being private does not in and of itself engender market behaviour (Lang, 1999).

In an analysis of recent changes in the government of Alberta's approach to higher education, Rae defines privatization as a "shift in the balances of finance and control from public to private," and that its implementation is achieved through the "encouragement or toleration of private educational institutions" (Rae 1997). According to Rae, privatization is achieved through either a wholesale selling of assets, contracting out, the use of vouchers (portable subsidies), or through "load shedding" (a reduction in government support for the provision of a service or product).

Policy advice from the Fraser Institute represents another attempt to push Canadian universities toward privatization. Auld (1996) describes how this policy, if set in motion, might restructure and reorient existing institutions:

Total privatization would involve severing all ties between a provincial government and a university, with the exception of the normal reporting that both for-profit and not-for-profit corporations make to both the federal and provincial governments. A totally privatized institution would decide on which programs to offer; develop its own policies on governance, research and curricula; and set its own prices for its services (tuition). It would also be expected to make some reasonable return for its original stakeholders or benefactors. Therein lies the first problem. Its shareholders are the citizens of the province, who provided funds for the original (public) university - minus, of course, any private funding for capital projects. This problem could be resolved by requiring that a newly privatized university provide the province with a reasonable return on the province's capital investment in the public institution.

Some of those changes would be dramatic. Others would not be. For example, universities in Ontario already may decide which programs to offer, may set their own policies on research, curricula, and governance, and now have extensive discretion over tuition fees. Returning a profit to shareholders, however, would indeed be a dramatic change. The trends of decreasing public funding, increasing private revenue and rising tuition fees have met with a variety of different analytical descriptions of the cumulative effects of such shifts in financing, such as "privatization" (Rae, 1997; Dupre, 1998), "marketization" (Dill, 1997; Leslie and Slaughter, 1997) and shifts in institutional culture (Newson and Buchbinder, 1988). Thus there is considerable conceptual ambiguity amid discussions of marketization and privatization. A number of public policy scholars

choose not to differentiate between the two (Kenway *et al.*, 1993). It is uncertain as to whether Rae's privatization criteria in isolation qualify as such, given that the criteria are premised on a conceptually weak public-private binary (Marginson in Kenway *et al.*, 1993).

The state may enact a system of financial rewards and penalties that stimulate and induce competition among institutions and it may reduce government support. However, the state may retain a considerable amount of control through regulation and major operational financing, conditions antithetical to a privatized regime. It is true, however, that these processes have much in common, beginning with what they both conceptually imply - a shift toward the use of market mechanisms in the allocation and procurement of funds. But a careful contrast of the two notions reveals an important distinction, in that public funding in marketized regimes still plays an integral part in funding in the provision of social services. The term *provision* is important, and must be differentiated from the exclusive role public funding may play in privatized systems as a user subsidy - paid directly to the user in the form of student aid, maximizing the element of "choice" integral to free markets economics (Afriat, 1987). It also, however, encourages markets "in education because of its contribution of the weakening of the non-market public sector" (Marginson 1993). Thus, at the heart of the distinction between privatized and marketized regimes is the state role as steward, as distinct from provider.

The term commercialization (or marketization) refers to the introduction of one or another characteristics of markets, such as user charges, or competition for public funds previously distributed by formula, or the establishment of a commercial research centre, or the creation of an entrepreneurial management required to increase private income. Strictly privatization refers to the transfer of production, or means of production, from government (public) sector ownership to private ownership. Commercialization is often accompanied by corporatization and deregulation (Marginson 1997).

In this role as steward, the state may encourage the formation and stimulation of markets by:

- Creating policy which dispenses research monies and student places using market mechanisms (Dill, 1997)
- Implementing changes in regulatory regimes toward greater institutional autonomy in setting fees (Rae, 1996)
- Encouraging the dissemination of academic "quality" information to create a more sophisticated consumer required in a more "perfect" market (Riesman, 1998)

Finally, consideration should be given to means of creating market behaviour within the public sector without privatization. This is one way of answering the "How much is enough?" question that centrally regulated and highly planned systems of public higher education have particular difficulty answering (Hayek, 1948; MacTaggart, 1996). One example is obvious: user fees, which in addition to raising revenue (without calling it a tax), are a means of determining the public's need and desire for certain services and programs. There are other examples peculiar to higher education. The first example here

is also obvious: tuition fees can also be user fees (Sosale, 1999). Another, more fundamental, example is enrolment-sensitive funding formulas, which, depending on how they are constructed, can engender very competitive inter-institutional behaviour.

Whether or not performance funding, as is currently deployed in Alberta, can be construed as a means of promoting market behaviour is questionable. Performance funding is typically closely tied to performance indicators that, very significantly, are determined by the government. Students do not determine them. If one takes the results of the previously analyzed admissions surveys from the University of Toronto as indicative of the expectations of students as consumers, virtually none of the indicators deployed in Alberta (or, for that matter, by *Maclean's* magazine) could be construed as reflecting market forces.

In conclusion, can education markets be public? Yes, they can and many already are. Assuming that the governments of Ontario have been influenced by economic theory - there is no firm evidence that they are - it may be that their thinking has followed the lines of F.A. Hayek, the Nobel Prize winning economist who criticized socialism, collectivism, and the welfare state. (Hayek, 1944 and 1948). In this context Hayek's observations were not ideological; they were practical. Without tending towards totalitarianism, no state could accurately match demand and supply, and in turn set prices. The purpose of the market, then, was to process the infinite array of factors that central planners could not, in order to strike the balance between supply and demand. Market behaviour, regardless of how it is induced, may be an alternative to highly regulated top-down planning in an area of the public sector which usually resists central planning, jealously protects institutional autonomy and academic freedom, and is difficult to comprehend in terms that can be easily translated into a political agenda.

How "private" is privatization? Not very. So far in Ontario there has been no privatization in the higher educational sector, nor is there any clear indication that there will be. This conclusion stands even in light of several "privatized" or "self-funded" programs that were introduced from the late 1970s to the mid-1990s. The government has never been clear about what "self-funded" means. Sometimes it means literally that the program receives no public funding whatsoever, directly or indirectly. Sometimes it means that enrolment in the program does not itself generate funding (called Basic Income Units or BIUs in Ontario); but the program may nevertheless be supported by public funds received under block grants. Sometimes it means that direct costs are self-funded but that indirect and overhead costs are not. Finally and perhaps most significantly, being self-funded in Ontario means being unregulated, not only in terms of tuition fees. This has led to some highly innovative programs, for example an MBA program at Queen's and a Doctor of Pharmacy program at Toronto. Neither of these programs nor any of the several others was privatized by government policy or *force majeure*. Indeed, most self-funded programs were never publicly funded, and for that reason cannot be accurately described as having been privatized.

SELECTING PEERS AND MAKING COMPARISONS

There is virtually no evidence that the last three Ontario governments have set policy about university finance on the basis of inter-jurisdictional comparisons. Nor is there evidence that in terms of the fundamental elements of finance that finance policy towards universities has been separate from that for colleges, especially in regard to tuition fees and operating grants. Although the extent to which governments in Ontario are influenced by comparisons to other jurisdictions is, therefore, at best problematic, comparisons are nonetheless made. The Council of Ontario Universities annually compares the funding of Ontario universities to several American jurisdictions. For more than a decade the Ontario Ministry of Education and Training directly participated in a tri-partite comparative survey. The Toronto Board of Trade has made comparisons.

Even if it is impossible to be sure that inter-jurisdictional comparisons influence government policy, it is important that the comparisons be conducted on a reliable basis. Indeed, if the reliability of the comparisons were higher their influence might be greater.

Diversity

Measuring diversity and selecting peers for comparison are recurrent issues in higher education. Usually they are regarded and discussed as entirely separate topics, each with its own research literature and methodology. Neither, however, is complete or entirely satisfactory. Robert Birnbaum, who has written extensively about diversity in higher education, for example, identified at least six different kinds of diversity and two different paradigms - "natural selection" and "resource dependence." (Birnbaum, 1983) He and others further observed that none of the conventional, broadly applied classification schemes satisfactorily accounts for all institutional characteristics (Birnbaum, 1983; Huisman, 1998).

There are other paradigms. Joseph Ben-David argued that differentiation is the product of competition, and that competition is greatest when colleges and universities are relatively independent (Ben-David, 1972). This would imply a paradigm rooted in organizational behaviour and system structure. From this follows an intriguing paradox: as governments pursue diversity through the construction of more highly regulated and planned systems of higher education, they may in practical fact be creating an environment that discourages diversity. This in turn suggests another question: Is it diversity that should be measured; or is it the conditions that engender diversity, in this case the level of regulation, which should be measured? Since regulation - which in addition would comprise accountability and the extent to which planning is prescriptive - is an almost exclusively system concept, and since differentiation is a continuous process (Blau, 1994), comparisons based on individual institutions, regardless of how they are classified, might be a step away from the real issue.

Peter Blau, in *The Organization of Academic Work*, a title that in itself suggests a theory about the foundations of institutional diversity, advanced a paradigm based on

social forces, institutional size and the proportionate scale of administration. According to Blau, these factors operate in more or less the same way regardless of institutional type. (Blau, 1994) An implication is that the classification of institutions by group is not a reliable measure of diversity.

Whatever the paradigm, the scholarship about diversity is aimed principally at two questions: what is diversity and how does it evolve? Diversity is generally accepted as a desirable objective of public policy. From that policy perspective follows another, somewhat more vexing, question which may be asked at both the system level and the institutional level: How does a government know when a sufficient degree of diversity has been realized? How does an individual institution know when it has made a sufficient contribution to diversity? Diversity is neither infinitely valuable, affordable, nor manageable: there can be too much diversity just as there can be too little. This poses problems for at least three critical areas of public policy towards higher education: planning, regulation, and funding. It is at this point that diversity begins to share some characteristics with peer selection.

Peer Selection

Peer selection, as a policy issue, began to grow in importance as interest in accountability and performance indicators grew, and as colleges and universities came under greater pressure to perform efficiently. In order to make informed decisions about strategy and resource allocations individual institutions might quite legitimately wish to construct comparisons with other institutions for the purposes of benchmarking. Benchmarking is not necessarily about performance or accountability. More often it is about the efficient use of resources, usually in monetary terms but not always. For example, the utilization of space is often benchmarked. Indeed, diversity itself can be benchmarked if a reliable basis of comparability is deployed.

There are many different indicators of performance, and almost as many debates about their reliability, relevance, and fundamental purposes. Nevertheless, most public systems of higher education are committed to them. As well and more to the point, accountability based on performance indicators is inherently comparative.

The key to benchmarking and accountability through comparison is not really the indicators or information themselves, but rather the means by which, in regard to benchmarking, an institution, formally through its board of governors, determines its peers for the purposes of comparison. Universities and their boards of governors should be aware of the importance of peer selection and should use it deliberately and formally in various regimes of benchmarking and internal accountability.

In regard to accountability and diversity, governments and public agencies should have the same concerns about the basis of comparison, and its potential effect on diversification as well as performance.

Comparisons made *ad hoc*, either because data are readily available or because comparisons with certain other institutions produce intuitively desirable results, are inherently unreliable and cannot serve accountability and management well. Convenience and politically useful results should not form the basis of peer selection. Neither individual colleges and universities nor systems of higher education can be effectively managed by anecdote. Yet, in the absence of systematic means of determining peers, that is an entirely possible and unfortunately misleading result.

Peer Selection and Diversity: Where Do They Intersect?

Peer selection is as much an art as a science, and fundamentally involves professional judgement. The ultimate objective of any methodology for determining peers for comparison should be to ensure that the institutions are sufficiently similar for comparisons to make sense. Institutions have different roles, some deliberately set as mission statements, while other roles are the products of history; others still are the unfortunate consequence of institutional drift. Institutions are different in terms of size and location. They are different in terms of organizational complexity, which is not necessarily determined by size.

An obvious although frequently overlooked matter of fact is that institutions are not systems, and *vice versa*. Institutions often have certain characteristics because of the systems of which they are a part. Even institutions that are afforded high degrees of autonomy sometimes are defined in certain respects by the public jurisdictions in which they are located.

Diversity is largely a system concept; it is about groups of institutions defined by political boundaries and about types of institutions defined by various classification schemes. Unless one postulates a virtually infinite number of institutional types, no classification taxonomy can really be about individual institutions, in which case it cannot form a sound and reliable basis for comparing institutions. This ineluctable observation explains why classifications and policies about diversity do not address questions about peer selection, and why peer selection schemes are usually not about diversity.

But if one asks whether or not a given system of higher education is becoming more or less diverse, and whether or not institutions within systems are differentiated, a logical connection to peer selection emerges. Systems can change in two ways: they can add or remove institutions; or the existing institutions in them can change. The latter is at least as frequent as the former, and in most Canadian provinces more so. Most classification schemes are not about change, or, more precisely, about degrees of diversity. Peer selection is, however, about both change and diversity because in the first instance it is about institutions, and in the second instance it is an attempt to measure institutions more or less continuously.

Think of a continuum with a scale that falls between complete or perfect symmetry among institutions and total dis-similarity or asymmetry. One end of the scale

would identify those institutions that for the purposes of benchmarking, performance measurement and accountability can be legitimately and reliably compared with one another. The other end of the scale and the extent to which institutions are distributed along the entire scale would express the degree to which a given jurisdiction or system was diversified. The key point in juxtaposing peer selection and diversity is that in both cases the scale is the same.

Reasons For Interest In Comparative Analysis Using Peer Groups

Strategic Planning

Comparison and emulation are components that are critical in institutional strategic planning. Peer comparisons can provide a basis for the rational evaluation of differences and of similarities among institutions, and of identifying relative strengths, weaknesses, and possible opportunities or niches.

Mission statements are often vague or abstract statements about institutional goals and priorities (Lang and Lopers-Sweetman, 1991). Comparative analysis can help institutions delineate their own identity in more concrete terms. In this regard, such comparisons can be a helpful antidote to external funding and coordination efforts that, deliberately or inadvertently, blur useful distinctions among institutions within a given jurisdiction.

Strategic planning is about a college or university's future aspirations and realistic possibilities. Throughout the research literature on strategic planning there are frequent references to environmental scanning (Bryson, 1988) for the purpose of identifying opportunities, challenges, and the best fits between what the institution is and what its sponsors, users or beneficiaries wish it to be. Logically, the environment to be scanned for any given institution could have wide and quite indefinite boundaries, so broad and so uncertain as either to defeat scanning or to render it meaningless. By determining its peers, a college or university can give shape to its environmental scanning exercise.

Just as some mission statements are vague and abstract, others are about aspirations, which may or may not be realistic or practicable (Lang and Lopers-Sweetman, 1991). One might think of this means of expressing an institutional strategy as definition by association, whether or not there is a sound basis in fact for the association. So, for example, a university might persistently and publicly compare itself to Harvard to imply that it is somehow like Harvard, and in time and in turn be regarded as being in Harvard's orbit or entitled to be funded at that level.

The key, then, to an aspirational approach to determining institutional strategy is to confine or direct aspiration to institutions that, on the basis of comparative data, seem to share a given college or university's mission generally, but appear to be more successful in achieving it.

Alternatively, a given college or university could postulate a different role for itself in the future by defining a "desired institution" containing targets for factors that are potentially controllable by the college or university in the long-term (for example, total enrolment, graduate share of total enrolment, a balance between part-time and full-time balance, library size, instructional program mix) and targets for external circumstances that the college or university might try to have changed (for example, government tuition fee policy), and then use a peer selection methodology to identify those institutions most similar to this "desired institution." The institutions thus identified become a benchmark or milestone against which the college or university can measure its progress.

Although diversity is usually a public policy concern, using the idiom of systems of higher education as opposed to that of individual institutions, it can play a role in strategic institutional planning and comparisons that are made in support of it. A quite common strategic planning device is a "strengths and weaknesses" or SWOT inventory which indicates roles for which an institution is most suited (Bryson, 1988). But this device can only be deployed to a certain point in setting strategy and mission. That limiting point is the measure of diversity within the system or jurisdiction within which the given institution is located. If there are a number of other institutions that are already playing the role that the given institution is considering, there may be no niche for that institution to occupy even if it is well suited to the niche. So, institutional plans and strategies sometimes depend on measurements of diversity too.

Evaluation of Institutional Performance

In the absence of absolute standards or frames of reference in higher education for the evaluation of institutional performance, governors and administrators understandably tend to turn to the behaviour of other institutions, either individually or as a group, to establish norms for guidance. Management of higher education is plagued by the "How much is enough?" question. There are no convenient algorithms to determine, for example, what percentage of an institution's budget should be spent on library acquisitions or how much should be budgeted to produce a given number of instructional hours.

Some "how much is enough" inquiries suggest counter-intuitive results in regard to diversity. For example, if large institutions are more differentiated, and large, complex institutions require greater investments in administration because complexity is more difficult to manage (Blau, 1994), then reducing the cost of administration in the name of efficiency can discourage diversity. So, which performance is more important: administrative efficiency or diversity? This question is more about what should be measured than how it should be measured.

There are a number of quite different ways that administrators and policy-makers attempt to address this question. One of the simplest is to calculate historical averages for various generic categories of expense, and fund all institutions or divisions within an institution on that basis. The averages, once calculated, are then incrementally adjusted for price inflation. Funding for the operation of physical plants is often determined this

way. This approach is visibly equitable, predictable and accountable, provided of course that "one size fits all."

Another approach is to presume that in fact one size does not fit all, and that in large complex systems and institutions the extent of experience and knowledge available centrally is not sufficient to make line-by-line decisions about expenditures, a phenomenon that James March calls "limited rationality" (March, 1994). In this case Responsibility Centre Budgeting is often deployed (Lang, 1999). Decisions about allocations under Responsibility Centre Budgeting are deliberately local and program specific, a perspective that inherently discourages comparison, reasoning that local managers know best how to measure performance and allocate resources.

The third approach is comparative benchmarking. The study conducted by NACUBO was a large-scale benchmarking exercise that assembled a very extensive and detailed database that covered virtually every area of institutional activity in higher education. One would have thought that such a study would identify "best practices" among the participating institutions, as well as local anomalies that each institution would examine itself.

But the NACUBO study didn't work that way. Some anomalies were so extreme as to be implausible. Some ostensible best practices, when examined closely, were not portable from one institution to another. There was, in the end, an explanation.

Participation in the NACUBO study was voluntary, and it was expensive. A \$10,000 fee was charged, as well as the opportunity cost of the staff time needed to assemble the data required from each participating institution. The result was an array of participating institutions that was highly diverse and therefore not conducive to reliable comparison. In other words, there was a peer selection problem.

Prices Paid and Prices Charged

The NACUBO study did demonstrate, however, that large amounts of relevant, definitive data could be assembled across a wide range of institutions. Moreover, the NACUBO study, even on a preliminary and proximate basis, demonstrated that as far as costs were concerned there were wide ranges of variation, even among institutions that according to Carnegie classifications were so similar that they should have had similar cost structures. While, on the one hand, the outcome of the NACUBO study suggests that further comparative studies should be approached with some wariness and skepticism, it, on the other hand, indicates the potential of such studies if the selection of peers can be undertaken systematically and successfully.

One of the most common applications of peer comparisons - even when conducted casually and anecdotally - is the issue of the prices paid and charged by an institution. Faculty and administrative salaries, tuition and ancillary fees, residence charges, and the cost of purchased goods and services are areas of particular interest.

Fee Ratios

Although some colleges and universities are private and some are public, they all have prices and markets. Marketization is not a phenomenon that is confined to the private sector (Clark, 1998). Moreover, privatization does not necessarily create markets (Marginson, 1997). In many jurisdictions, public policy with respect to tuition fees is changing dramatically. There are many intense debates about tuition fee policy. These debates are often highly political. Comparisons cannot resolve such debates, but they can inform critical decisions about the elasticity of tuition fees as prices.

Both governments and individual institutions should be interested in price elasticity. Governments should be concerned if tuition fees were to have a highly elastic effect on accessibility. They should also be concerned if, by reducing grants while increasing fees, they assume that overall funding will remain approximately the same. If a government were to favour higher tuition fees in order to create and stimulate market behaviour, it should be concerned if fees were inelastic.

Individual colleges and universities not only have to set specific tuition fees, they usually have to set them program by program. Assuming at least some elasticity, setting fees too high would risk unmanageable shortfalls in enrolment. Setting them too low would forego revenue and perhaps imply lower quality programs.

Setting fees by direct comparison is very difficult and unreliable for a number of reasons: fee policy varies significantly from jurisdiction to jurisdiction; there are several educational markets; only a few institutions actually have international or even national markets. To the extent that fees reflect costs, costs are still variable (as the NACUBO study indicated).

All of this means that the reliable selection of peers is critically important to comparisons of fee levels. It also means that it would be more reliable to compare ratios among tuition fees than to compare fees directly. A ratio in this context would be the percentage by which, for example, the tuition for an MBA program exceeded the tuition fee for a first-year BA. Such ratios could be calculated and compared among both high fee and low fee jurisdictions.

Credibility, Validity, and Control

Credibility, both internal and external, is important. Although there is not much evidence that governments in Canada and Ontario in particular use comparisons to determine funding for higher education, the fact remains generally that government funding agencies are often suspicious that ad hoc comparisons are contrived to promote institutional self-interest. A systematic, open and detailed process for the selection, and then consistent use, of peers can increase the credibility of comparative results. Internally, peer comparisons can also make possible institutional profiles that provide greater context as opposed to the frequent tendency to assemble isolated bits of polemical comparative data that are sometimes taken out of context.

Although data validity can lead to questions about the appropriateness and reliability of various peer selection approaches, the selection of peers can itself lead to more effective and valid comparisons over time. That is, the development of a stable set or sets of peers enables an institution to focus on a much smaller group of institutions. It can then identify, examine and attempt to rectify differences in definitions and other data comparison problems.

A systematic, pre-determined selection of institutional peers can act as an internal control device. Consideration of comparisons and identification of peers removes the pressure often associated with selecting peers as specific issues arise or as specific decisions are required. Determining peers ahead of time is usually more rational and more credible than selecting them within the political context of a controversial issue. Selecting peers in advance can also add an element of preparedness by assisting an institution in dealing with external requests for data, and in defending against ad hoc peer comparisons developed by other institutions, agencies or the press.

Overcoming Tunnel Vision

Colleges and universities, over time, may have a tendency to look increasingly inward, either within their own jurisdiction or within themselves. Some degree of complacency or self-delusion with respect to current levels of performance and reputation may result while significant, but unobserved, changes may be occurring in other jurisdictions or at other institutions, some of which might be competitors. Peer selection and comparisons can potentially lead to long-term benefits by shifting an institution's outlook from a relatively internal to a relatively external focus, or at least a focus that engenders greater self-knowledge.

Determining Compensation

Comparisons are part of the warp and woof of collective bargaining throughout the private sector and most of the public sector. Higher education is not an exception. Colleges and universities and the several constituencies within them attempt to make comparisons for several reasons. Employees wish to demonstrate that they are under-compensated in comparison to their putative peers at other institutions. Institutions as employers might wish to demonstrate the opposite. Students refer to comparisons in order to support claims that faculty compensation consumes too large a share of tuition fee revenue. Institutions sometimes deploy comparisons as means of persuading alumni and funding agencies that additional funds are necessary to maintain salaries at levels that will ensure quality and a competitive position in the academic marketplace.

Because most of these reasons involve at least some degree of self-interest, their credibility depends on objective, consistent, and clearly defined means of selecting peers for comparison. Because, in some jurisdictions, college and university faculty are employees of a system of institutions or of the state, peer selection that involves compensation must address systems as well as individual institutions.

Peer Selection Methodologies: A Typology

Although not an exact science, there are several methodologies available for determining peer groups among colleges and universities. In the United States, for example, the American Association of University Professors (AAUP), the Carnegie Commission for Higher Education, the National Center for Higher Education Management Systems (NCHEMS), and a few individual states, for example, Washington and Kansas, have developed formal methodologies. Others, like the Maclean's magazine survey in Canada, are less definitive but aim for a similar result. Each uses different criteria but usually includes some subset of the following variables: enrolment, numbers of degrees awarded, programs offered, professional staffing, average salaries, and research expenditures, among others. Some take local geography and demographics into account. A report prepared in 1992 by the Council of Ontario Universities for Maclean's magazine proposed a categorization scheme based on cost structures. So, there are numerous possibilities. Whatever the number of methodologies they can be multiplied by two because the data can be assembled by either institution or program, or both. The differences are potentially significant. For example, certain programs - like Dentistry -- may have unique and highly anomalous cost structures that a solely institutional application could mask.

A typology of approaches to developing institutional peer groups is presented in Table 3.

Table 3

Typology of Approaches to Developing Institutional Peer Groups

<i>Technique</i>	Cluster Analysis	Hybrid Approach	Threshold Approach	Panel Review
<i>Emphasis</i>	Data plus Statistics	Data plus Statistics plus Judgement	Data plus Judgement	Judgement

The bottom half of the table shows a continuum of options ranging from a judgement-free (statistical approach) to one depending entirely on judgement.

It is very important to understand that there can be very large differences between methodologies that organize individual institutions into groups or categories, and then make comparison among the groups or categories and those methodologies that aim actually to measure the differences or similarities among individual institutions so that they can be compared one to another. With very few exceptions, the existing methodologies are of the first type: they construct groups of approximately similar institutions according to relatively short lists of characteristics. Once the groups are

constructed, the institutions that they comprise are assumed to be identical. These methodologies can assist in comparing jurisdictions in order to measure diversity, but they are unhelpful and even misleading in making other comparisons.

They might not be as reliable as they appear as a means of comparing diversity in some circumstances. Many Canadian provinces and several American states have systems of higher education that comprise a lop-sided array of institutional types, for example, by having a single research-intensive "flagship" institution or by having a number of small institutions located mainly to address problems of geographic distribution. Such systems are justifiable, but they are not necessarily comparable as peers despite where their constituent institutions fit in various categorization schemes.

Cluster Analysis

Cluster Analysis is a set of statistical procedures that are designed basically to calculate statistical distance. Alternative ways of making the calculation distinguish alternative clustering methods. Clustering algorithms ensure that the institutions in a given cluster will be more similar to each other, with regard to the variables being evaluated, than the institutions in any other cluster. The approach relies heavily on multivariate statistics and computer processing to manipulate large quantities of institutional descriptors. Other statistical techniques may be used in conjunction with the cluster analysis procedures. Factor Analysis is sometimes used as a step preliminary to Cluster Analysis as a means of incorporating a large amount of data in the peer selection process. Discriminant analysis is used to examine the results of the clustering techniques.

Hybrid Approach

The Hybrid Approach incorporates a strong emphasis on data and input combined with custom designed statistical algorithms for manipulating data. The Hybrid Approach also involves a degree of professional judgement in selection of data and the construction of algorithms. Thus the Hybrid Approach usually involves fewer data than Cluster Analysis because of the pre-selection of data.

Various forms of this approach are conceivable. One such approach is that used by the Kansas Board of Regents to identify peer groups for the six four-year institutions under its jurisdiction (Teeter and Christal, 1987). This methodology was revamped in the fall of 1980 to revise earlier peer selections made by the Kansas Board of Regents, which used these selections as aids in developing funding formulas for institutions in Kansas.

Threshold Approach

The Threshold Approach relies primarily on thresholds and raw data, and depends little, if at all, on statistical methods. It is useful to think of it as a procedure for reducing the universe of institutions until a residue of acceptable ones remains. Although not a pure threshold approach, the National Center for Higher Education Management Systems (NCHEMS) uses a methodology that comes close in practice to such an approach. The

Threshold Approach is essentially historical in that it accepts and reinforces data based on fixed performance.

Panel Review

In the Panel Review approach, peer groups are developed primarily through informed judgement, and are based on a consensus of knowledgeable individuals. Data are used only informally. This approach is commonly used, although descriptions of this approach are difficult to find because of its simplicity and unscientific foundation.

Throughout the former British Commonwealth, "university grants committees" frequently organized institutions into groups or panels for various purposes, including funding.

Reputational surveys are often used either to inform the Panel Review approach or to confirm its results.

***De facto* or Jurisdictional**

A conundrum that confronts several of the paradigms that purport to explain diversification and differentiation in higher education is that the shape and composition of the political jurisdictions in which post-secondary systems function are not themselves the product of, for example, natural selection (Birnbaum, 1983) or competition (Ben-David, 1972). History, culture, language, and geography are more frequent determinants of political jurisdictions. Any one of these factors can explain certain system characteristics – for example, colleges and universities in remote under-populated areas or, conversely, a congestion of institutions in other areas – that other paradigms cannot.

While other paradigms might be more logical or more theoretically complete, it is neither practical nor reasonable to ignore political jurisdictions in measuring diversity and comparing institutional performance. Thus institutions within a given political jurisdiction and, in turn, educational jurisdiction are likely to be compared whether or not they would be regarded as similar by any other approach to peer selection.

Some systems are large enough to internalize one of the other approaches, but even then the number of institutions judged to be sufficiently similar for the purposes of comparison might be too small to ensure statistical validity. Other jurisdictions, for example, California, organize institutions into more than one system: universities, four-year colleges, and two-year colleges. And others, in the interest of visible equity, deploy linear one size fits all funding formulas coupled with local autonomy to promote a modicum of diversity or, at least, an asymmetry between the bases on which funding is allocated and on which it is spent. Whether or not any of these alternatives is commendable, they all exist as approaches that might be taken towards defining institutions that might be considered as peers.

Making a Choice: The Rationale For Using a Hybrid Approach

So just as there are several reasons for wishing to make comparisons among institutions and systems of institutions, there are several possible means of making those comparisons. Each offers advantages and disadvantages. Some are more appropriate in certain circumstances than others. One, however, seems to be more commendable than the others.

The Hybrid Approach incorporates the benefits of the Panel Review Approach by requiring the intervention and utilization of expert judgement during the process, as well as at the end, of selecting a final group of peers. The Hybrid Approach has the added advantage of being statistically based, which makes it more objective and thereby more credible than the Panel Review Approach. Consequently, the likelihood of mistakenly selecting an "aspirational" institution as a peer is lower when using the Hybrid Approach than the Panel Review Approach. Such erroneous Panel Review classifications jeopardize the credibility of comparisons, especially in the eyes of third parties like public funding agencies and the press.

Although the Threshold (or NCHEMS) Approach is simpler to use than the Hybrid Approach, the Hybrid Approach has features which make it more attractive despite its relative complexity. It is statistically more sound, and is much more difficult to manipulate, making it more credible to external agencies and less threatening to potential peers. A major weakness of the Threshold Approach is that it ignores the extent to which institutions miss the value range for a given variable selected by the home institution. The price of this enhanced credibility is a higher degree of logistical complexity. However, only a limited amount of statistical knowledge is needed to comprehend the results of the Hybrid Approach.

Cluster Analysis and the statistical techniques that support it, on the other hand, are complex and sophisticated, and require more than a basic understanding of statistics. Although one advantage of the Cluster Analysis approach is that it does not require arbitrary judgements made in advance about the appropriate cut-off points for interval variables as required by the Threshold Approach, considerable judgement is still required to decide both how and where group boundaries will ultimately be drawn, and how weights will be assigned to the variables entering the analysis.

Cluster Analysis raises other statistical concerns. The manner in which data are standardized can cause problems whereby variables that have the largest variance will have the largest impact on the cluster results, regardless of whether that makes sense substantively. Factor analysis based on samples of fewer than three hundred cases may only have fair reliability.

The technical complexity and abstractness of Cluster Analysis makes it less practical to implement, explain, and understand. Non-statisticians generally have to accept on faith that this approach is appropriate for the selection of peer institutions, and that the human interventions required by these procedures have been reasonable. Cluster

Analysis might be more helpful in mapping a universe of institutions, as a government concerned about diversity might wish to do; but, as an approach, it makes less sense when the task is to select a peer group for a particular institution. If Cluster Analysis were used to measure diversity, it would have to be accompanied either by some means of taking national, state, or provincial differences into account or by a weighting scheme to reflect institutional differences that are jurisdictionally determined. In other words, Cluster Analysis would have to be performed twice: once to determine a basis for comparing political jurisdictions, and once to make comparisons among institutions within political jurisdictions previously shown to be similar.

Out of all of the peer selection approaches, the Hybrid Approach is the only one that explicitly takes into consideration the characteristics of the nation, state, province and city in which the candidate institutions are situated. This is desirable because environmental factors are important elements of comparative analyses (for example, ability to pay or cost structures that are based on local costs of living). This recommends the Hybrid Approach to Canadian institutions that wish to select peers among American institutions, and to American institutions in states with relatively few colleges and universities.

The Hybrid Approach makes no preliminary suppositions about institutions by postulating an array of categories and then seeking to determine into which category each college or university should fit. Instead the Hybrid Approach has the potential to reveal and express ranges of similarity.

The Hybrid Approach thus strikes a deliberate and reasonable balance between having statistical integrity and utilizing professional judgement. It is not so heavily reliant upon judgement that it runs the risk of selecting aspirational institutions as peers or of creating the perception that data have been manipulated to promote institutional self-interest. The major area of subjective judgement - the assignment of selection variable weights - is clearly visible, and thereby open to further review and discussion as necessary. The Hybrid Approach is not so statistically intricate that it is incomprehensible. It is, however, sufficiently elaborate and thorough to discourage the manipulation of results. It permits extensive examination of institutions, particularly with respect to degrees awarded by degree level and instructional program area, and incorporates information on state and provincial characteristics.

A Prototype Methodology

Although there are several theoretical approaches towards the selection of peers, their practical applications have been few in number, and even fewer when applied to measurements of diversity. The methodology and selection of peers described here grew from four similar but separate events, each involving the University of Toronto to some extent.

First was the University's participation in two major data exchanges, the Canadian Universities Data Exchange Consortium (CUDEC) and the American Association of

Universities Date Exchange (AAUDE). Comparisons based on peer selection, regardless of theoretical approach, depend heavily on the availability of institutional data. These exchanges provided a wide array of data organized by mutually agreed and recognized definitions.

Second was a large-scale benchmarking study sponsored by the National Association of College and University Business Officers (NACUBO). Although NACUBO is an U.S. organization, Canadian institutions were invited to participate in the study, and the Canadian Association of University Business Officers (CAUBO), which is NACUBO's counterpart in Canada, kept an active watching brief on the project. The University of Toronto was a full participant in the project for two years.

Third, in 1991, the Minister of Colleges and Universities in Ontario struck a Task Force on University Accountability chaired by Mr. William Broadhurst, a former president of Price Waterhouse. The task force's final report, which appeared in 1993, made a number of recommendations about performance indicators and how they should be properly deployed. In the task force's judgement, proper use of the indicators depended on definitive mission statements and deliberate and objective identification of peers.

The Broadhurst Task Force, on the one hand, warned against the comparative use of performance and management indicators that were devised in the first instance for purposes of accountability. In particular, the task force expressly explained that none of the indicators that it identified was devised with comparison in mind.

But, on the other hand, the Broadhurst Task Force was neither naïve nor unrealistic. It recognized that indicators, once developed and calculated, might be used to make comparisons regardless of the task force's advice to the contrary. The task force, through a committee that it commissioned to develop indicators, offered two important observations:

The key to accountability through comparison is not really the indicators. It is the means by which each institution, formally through its board of governors, determines its peers for the purposes of comparison.

Comparisons made willy nilly, either because data are readily available or because comparisons with certain other institutions produce intuitively *desirable* results, are inherently unreliable and cannot serve accountability well. Convenience and politically useful results should not form the basis of peer selection. (Task Force on University Accountability, Appendix G, 1993)

Finally, an Advisory Panel on Future Directions for Post-Secondary Education [Smith Panel] was struck by the provincial government in 1995 and reported in 1997. The panel raised a number of questions about how differentiation among institutions might be measured and promoted, and how distinctive institutional missions and roles might be

recognized within a single system of higher education. The panel was also concerned about accountability. Responding to these queries and suggestions required some yardstick by which to express and measure similarities and dis-similarities among institutions.

The University of Toronto therefore had a number of reasons to develop a process for identifying peers and had access to data on which such a process might depend. Those reasons applied both to institutional comparisons and to system comparison based on diversity and differentiation. Some of those reasons, however, posed requirements that went beyond any of the theoretical model methodologies.

After examining the several theoretical peer identification schemes, and favouring the Hybrid Approach, the University of Toronto decided that it should develop that approach further to include four different "slates" of peers: "Base", "Research", "Compensation", "Government Ability to Pay." Each slate would be used in different circumstances but based on the same definitions and data, and organized by program as well as by institution. All data would be drawn from either AAUDE or CUDEC. In addition, data were assembled from various sources on jurisdictional (state or province) characteristics.

That there would be a "base" slate could be taken as given. That there should be a "research" slate was in part explainable by the role of the University of Toronto, but there were other reasons. Examinations of annual reports of institutional rates of overhead applied to research grants and contracts in the U.S. consistently indicate wide ranges of costs associated with research. Most sources of research funding are national as opposed to state or provincial, in which case the availability of research funding is a factor separate from other factors based on funding.

A "compensation" slate was needed for several reasons. Comparisons almost always play a role in labour negotiations about salaries. Salary expense, which is any college or university's single largest cost, can vary significantly among programs. Thus the mix of programs in a given institution can appear to overstate or understate comparative costs unless there is a specific comparison algorithm for compensation. The "compensation" slate is in some respects an expression of costs of living in different locations. So, for example, all salaries and wages in both the public and private sectors in a large urban area might be relatively high, in which case an unadjusted comparison of higher educational costs would be misleading. A separate "compensation" slate can provide such an adjustment.

Another very frequent use of inter-institutional and inter-jurisdictional comparisons is to lobby government for more funding. Sometimes, perhaps too often, the selection of peers in these comparisons is polemical instead of analytical and objective. Governments know this. The performance of colleges and universities and the degree of diversity in systems of post-secondary education depend heavily on levels of funding. Yet those levels often are not really the result of policies directed specifically at higher education. Instead, they are artifacts of larger policies and circumstances that affect the

entire public sector, for example the rise and fall of general revenue. Hence the need for an "ability to pay" slate.

Background: The Logistics of Peer Selection

Canadian Universities Data Exchange Consortium (CUDEC)

In December 1980, the universities of Guelph, Toronto, Waterloo and Western Ontario and Queen's University took the first steps towards development of a data exchange in response to mutual needs for reliable and consistently defined data about academic units in support of various strategic planning and budgeting. Over the next several years, the scope of the data exchange was expanded to include information on non-academic or non-teaching activities. Institutional participation was expanded to include a number of universities from outside Ontario. In 1986, the Canadian Universities Data Exchange Consortium (CUDEC) was created, and a national steering committee was set up to guide the data exchange process. At its peak CUDEC had fifteen members from seven provinces.

Although data exchange information had been used in the analysis of some divisional resource requests both prior to and since the formation of CUDEC, the University of Toronto's participation in CUDEC was directed mainly to various *ad hoc* analyses that were usually related in some way to program planning or to the institutional budget processes. There were several reasons for this posture:

- i. Individual institutional participation in CUDEC varied from year to year. The result was in some cases databases that were not sufficiently complete for the purposes of time series analysis.
- ii. American and European universities are major sources for new PhDs hired into the University of Toronto's tenure stream. Consequently, comparisons to the American labour market for faculty were often more important to salary negotiations than comparisons to other provincial labour markets in Canada.
- iii. The University of Toronto, given its breadth and depth, had few Canadian peers for the purposes of comparisons that involved certain programs and certain scales of operation.

American Association of Universities Data Exchange (AAUDE)

The American Association of Universities (AAU) is an organization that comprises major research universities in North America. Membership is by invitation. At the time the prototype peer selection methodology was developed, the University of Toronto and McGill University were the only two Canadian members of the AAU.

The AAU Data Exchange (AAUDE) was created in 1973 by interested AAU institution presidents. Its primary purpose was initially to exchange mutually confidential

faculty salary and teaching load data, as well as other information of common interest by agreement of institutional representatives, on an annual basis. Since then AAUDE expanded to include a wide range of data and standardized reports.

AAUDE conducts a variety of special studies each year. Participation in those studies often goes beyond the AAUDE membership to include other universities. For example, an academic cost study was undertaken which involved a number of research intensive private universities.

There is also an organization of AAU registrars, called AAUREG. Some comparative data are regularly available through AAUREG. Important examples are data on course and section size.

The raw data available through AAUDE are voluminous. In order to make use of this resource, the University of Toronto decided to generate an annual report that tracked how the university compared, each year and over periods of several years, against AAUDE members with respect to selected institutional statistics obtained through the exchange. These annual reports were forerunners of the sorts of performance indicators subsequently called for by the (Broadhurst) Task Force on University Accountability, and raised in real terms the significance of peer selection.

Task Force on University Accountability

Coincidental to the University of Toronto's review of possible methodologies for selecting peers, interest was mounting on the part of the Government of Ontario over the accountability of Ontario universities for the public funding which they were receiving. In response, a ministerial Task Force on University Accountability was established to undertake a comprehensive review of the accountability practices of Ontario universities and to make recommendations for greater accountability.

In its May, 1993, report to the Minister of Education and Training, entitled *University Accountability: A Strengthened Framework*, the Task Force on University Accountability stated that it considered the governing body of the institution to be the primary and most effective locus of accountability. The Task Force identified two essential accountability functions that should be the responsibility of the governing body - the approval of policies and procedures covering institutional performance, and the monitoring of them.

To assist it in developing a better understanding of how governing bodies might improve their ability to monitor university activities, the Task Force formally requested that the Committee on Accountability, Performance Indicators and Outcomes Assessment, a sub-committee of the Council of Ontario Universities' Committee on University Planning and Analysis, provide detailed advice on benchmarks and indicators that might be used by the individual governing bodies of Ontario universities to improve their ability to hold their institutions accountable. The Committee developed twenty-five

management indicators to be employed at the institutional level to inform governing bodies about the activities and performance of the institution.

Although the management indicators were not devised to serve the purpose of institutional comparison or ranking, and the Task Force agreed that they should not be used in those ways, the Committee recognized that governing bodies and other agencies in fulfilling their mandates for accountability might legitimately wish to construct comparative lattices based on these indicators or some sub-sets of them. The Committee pointed out that if any of the management indicators which it devised and which the Task Force recommended were to be used for comparative purposes, it would first be necessary to determine which institutions should be considered as peers for the purposes of comparison.

The Task Force subsequently adopted the Committee's report, included it in its final report, and recommended that universities use the management indicators as part of their obligations for accountability.

For the purposes of objectivity and accountability, and to test the feasibility of the methodology, the prototype methodology was "mapped" to the indicators recommended by the (Broadhurst) Task Force on University Accountability. This was a more significant decision than it might first appear. Most of the classification schemes that are currently in place, as well as methodology proposed by Robert Birnbaum, rely on a relatively small number of variables. Birnbaum, for example, identified six variables: control, size, gender of students, program, degree level, and minority enrolment (Birnbaum, 1983).

The (Broadhurst) Task Force's indicators, however, were wider ranging. This should not be surprising, since the task force was concerned with more than diversification and classification. With the exception of minority enrolment, the task force's indicators comprised all of the variables commonly deployed elsewhere, plus a number of others: research grants, research contracts, library resources, international enrolment, faculty awards, student retention and graduation rates, courses offered, instructional workload, balance between full and part-time programs, academic support, and space. Some of these additional variables would have little bearing on diversity, but others would refine the classification, particularly when viewed from the perspectives of Peter Blau or Joseph Ben-David's paradigms.

Adapting the Hybrid Approach to Select Peers

Exchange Rate

Because both the U.S. dollar and the Canadian dollar float, a "fundamental equilibrium exchange rate" was set and deployed to align all financial information among institutions. The consistent use of one exchange rate that factored out cyclical variations in currency values was especially important for time series analysis.

Financial Data Adjusted For Geographical Price Differences

Price differences among geographic areas can create significant differences in purchasing power, a condition of major importance in public finance but often overlooked in comparisons and equity considerations. Comparisons of revenues and expenditures lose much of their value if nominal dollar amounts are not adjusted for equal purchasing power. Consequently, the financial data for each AAUDE institution were adjusted using a state Cost of Government Index (COG) developed by the U.S. Department of Education.

The COG reports the market prices and real wages that state and local governments would negotiate for a fixed basket of goods and services purchased for the current operation of their collective public human services, excluding medical services. While not specifically designed for colleges and universities, the COG reflects theoretical minimal prices generally applicable to all public services. For all states, the COG values ranged from a high of 127 for Alaska to a low of 89 for Mississippi. For the 25 states which contained at least one AAUDE member, the COG values ranged from a high of 115 for New York to a low of 90 for North Carolina.

Considerable effort would have to be expended to develop an individual COG value for Ontario, which would be based on the same basket of goods and services as the American COG values. Alternatively, it was possible to use three variables in the peer selection model (population size – 25 percent weight; urbanization level – 25 percent; nominal per capita income – 50 percent) to select the five states that were most similar to Ontario, and then use the average of those states' COG values. Thus, the proxy COG value for Ontario was 98.4, based on Colorado, Florida, Michigan, Ohio, and Washington.

Addition of Library Selection Variables

The University of Toronto placed and continues to place a high priority on its library system as reflected by a formal budget policy for library acquisitions budgets against budget reductions, price inflation and currency fluctuation; in other words, measures to ensure that real purchasing power is maintained. Given that priority, two selection variables - total library volumes and total library materials expenditures – were added to the peer selection model. This is a good example of the combination of statistical analysis, professional judgement, and selection of data under a Hybrid Approach.

"One-Phase" Selection Process From a Pre-Determined Group

The Hybrid Approach usually follows a "three-phase" selection process. Taking the State of Kansas as an example, the first phase involved the identification of the 33 states that were most similar to Kansas in terms of population, urbanization level, nominal per capita income, and high school attendance patterns in higher education. The

second phase reduced and grouped the number of institutions within the remaining 33 states using institutional characteristics such as ownership (public versus private), institutional type, number of doctoral programs offered, and the size of the city within which the institution is located. The third, and final phase, then determined the similarity of the remaining institutions to the home institution with respect to enrolment, funding and expenditure patterns, and degrees awarded.

The proposed peer selection methodology for the University of Toronto used a "one-phase" selection process, given the recommendation to select its peers from a predetermined candidate group, the major research universities that were members of the AAUDE. Three of the six state characteristic variables used in the first phase of the Hybrid Approach, for which Ontario information exists, were considered simultaneously in the proposed Toronto methodology with the enrolment, funding and expenditure pattern, and degrees awarded information. That is, the six state characteristic variables in the Hybrid Approach were used only as an initial screening device and did not contribute towards the total similarity score for each institution; whereas the three characteristic variables for Ontario and the states in the proposed Toronto methodology were not used as a screening device. Instead they contributed a portion of the overall similarity score for each institution.

Because the membership of the AAU is essentially a combination of self-selection and invitation, the University of Toronto also undertook a separate state similarity analysis using information on all 51 states. Only five out of the 38 AAUDE members are not situated within the 33 states calculated as being most similar to Ontario, four from California and one from New Jersey. California is very dissimilar to Ontario, and all other states, because of its large total population of 29.8 million; while New Jersey is dissimilar to Ontario, and almost all other states, due to its high per capita income. These five institutions were excluded from the peer selection analysis, however, given that the state/provincial characteristic variables; although appropriate factors for the determination of peer institutions in a broad sense, were relatively not the most important selection variables overall.

Although sharing similar research missions, AAU institutions still varied according to such characteristics as institutional size, enrolment, financial resources, library size, state or provincial characteristics, and program mix as reflected by degrees awarded.

Four Proposed Slates of University Peers

In some jurisdictions, governing agencies use peer selection models to select one group of peer institutions for each institution within the jurisdiction. Even within a given institution, however, a case can be made for different slates of peers, depending on the particular comparisons that a board of governors might wish to make for the purposes of accountability. A variety of slates was possible. The University of Toronto deployed four slates, which are outlined by Table 4.

The four slates were differentiated by the relative weights assigned to the peer selection or data input variables as follows:

- The selection variables were conceptually grouped into three categories: State/Provincial Characteristics, Enrolment/Financial/Library, and Degrees Awarded. The total residual weight between the latter two categories was split 50:50 once the weight for the first category has been determined.
- For the Base and Compensation slates, the total weight assigned to the degrees awarded category was then equally distributed among the selection variables for each of the four degree levels. That is, the degrees awarded category was assigned a high weight in total, but a neutral position was taken with respect to the relative importance of each degree level to the selection of a peer group. The Research slate assigned higher weights to the masters and doctoral degrees awarded selection variables. The degree level weights for the Government Ability to Pay slate reflected the actual distribution of degrees conferred in 1987-88 by degree level expressed in government funding units.
- For the Research slate, higher weights were also assigned to the research expenditures, graduate and first professional share of full-time equivalent enrolment, and library selection variables.
- For the Compensation slate, higher weights were assigned to the urbanization level, per capita income, graduate and first professional share of full-time equivalent enrolment, tuition and fees revenue, and restricted funds revenue.
- For the Government Ability to Pay slate, higher weights were assigned to the state or provincial characteristics, and tuition and fees revenue selection variables.

Table 4
Peer Selection Variable Weights

Selection Variable	Base Slate	Research Slate	Compensation Slate	Gov't. Ability to Pay Slate
ENROLMENT:				
FTE Enrolment	5.0	2.0	0.0	5.0
Head Count Enrolment	3.0	0.0	0.0	0.0
Graduate & First Professional as a % of FTE Enrolment	8.0	12.0	16.0	5.0
	16.0	14.0	16.0	10.0
FINANCIAL:				
Current Fund Expenditures	4.0	2.0	2.0	0.0
Tuition and Fees Revenue as % Current Fund Revenues	4.0	2.0	8.0	15.5
Instruction Expenditures	4.0	2.0	2.0	0.0
Restricted Funds Revenues	4.0	2.0	8.0	2.0
Research Expenditures	4.0	6.0	2.0	0.0
Research Expenditures as % Current Fund Expenditures	4.0	8.0	2.0	0.0
	24.0	22.0	24.0	17.5
LIBRARY:				
Library Volumes	4.0	8.0	0.0	0.0
Total Library Materials Expenditures	4.0	6.0	0.0	0.0
	8.0	14.0	0.0	0.0
STATE/PROVINCIAL:				
Population Size	0.0	0.0	0.0	15.0
Urban as % Population	2.0	0.0	10.0	5.0
Per Capita Personal Income	2.0	0.0	10.0	25.0
	4.0	0.0	20.0	45.0
DEGREES AWARDED:				
Bachelor	12.0	7.5	10.0	13.9
Masters	12.0	15.0	10.0	7.8
Doctoral	12.0	20.0	10.0	2.5
First Professional	12.0	7.5	10.0	3.2
	48.0	50.0	40.0	27.5
TOTAL	100.0	100.0	100.0	100.0

The Process of Peer Selection Under the Adapted Hybrid Approach

The actual work of identifying peer institutions and assembling slates of institutions can be very time-consuming. The first step was the incorporation of a wider range of variables. Conceptually this was not a difficulty, but it did complicate the logistics of data definition and collection.

Next, all of the other institutional members of AAUDE were examined. Four institutions - Brandeis, California at Irvine, California at San Francisco, Columbia - were eliminated because complete information was unavailable for each. The remaining thirty-seven institutions, which will be referred to as the "candidate group", were screened by similarity to the University of Toronto with respect to enrolment, funding and expenditure patterns, library volumes and materials expenditures, state/provincial characteristics, and degrees awarded.

A mean and a standard deviation were calculated for each selection variable, from which a z-score¹ was generated for each institution. Each candidate's z-scores are compared to those of the University of Toronto by taking the absolute value of their differences. The results of this process are referred to as "comparison scores."

To compare degrees conferred, a matrix of degrees awarded by instructional program area and by degree level (bachelor, master, doctoral, and first professional) was generated for each institution. From this pool of matrices, a mean and standard deviation was derived for each cell of the matrix, from which a z-score and comparison score were calculated for each cell of each institution's matrix. Each institution's instructional program area comparison scores were then aggregated by degree level and divided by the number of instructional program areas where degrees were awarded by both the candidate institution and the University of Toronto, plus the number of instructional program areas in which degrees were not awarded by either the candidate institution or the University of Toronto. This resulted in four comparison scores per institution, one for each degree level.

The reason for discriminating among programs that were offered by both institutions, only one, or by neither was the knowledge gained from previous NACUBO and CUDEC analyses that had indicated that some programs - for example, Dentistry - had highly anomalous cost structures that could have a powerful effect on comparisons. While that effect might be statistically noticeable in institution-to-institution comparisons, they might be masked when systems were compared to one another.

¹z-score = (raw datum - mean for variable) / standard deviation for variable

All comparison scores (c) were then standardized using the formula $X = 10 + 5c$. Since z-scores commonly range between -3 and 3, this conversion caused the comparison scores to become nonnegative with broader ranges. In the case of degrees awarded, however, only standardized comparison scores were provided for each institution, one score for each degree level.

The cells of the matrices for the five institutions not awarding any degrees at the first professional level - Carnegie-Mellon, Maryland at College Park, MIT, Michigan State, Pennsylvania State - were excluded from the above computations for the first professional degrees awarded selection variable because they would necessarily have had undefined input values. The standardized comparison scores for those institutions' first professional program variables were artificially set at 10.5, or just above the highest standardized comparison score among all the institutions that award first professional degrees. That is, those institutions awarding no professional degrees were at most no more similar than the least similar institution that awarded professional degrees.

Weights (totaling 100) were applied to the standardized comparison scores of the selection variables. The scores thus weighted were summed to create similarity scores. The institutions were then rank-ordered by similarity score. These rankings then served as a valuable aid in selecting a final set of peer institutions.

It should be noted that the above methodology always results in a similarity score of 1,000 for the University of Toronto because all of its comparison scores, by definition, must equal zero. At the same time it is important to understand that a low score is just as instructive as a high score because under the prototype methodology the fundamental objective is to measure ranges of institutional similarity: the wider the range, the greater the diversity; the higher the comparison score, the closer the similarity among potential peers. Depending on the distribution of scores, the methodology could suggest *de facto* systems within jurisdictions that do not formally or intentionally seek to differentiate among institutions (as was the case of Ontario and the University of Toronto).

Calculation of Comparison Scores for Each Degree Level

A "comparison score" was calculated for each degree level by dividing the sum of the comparison scores for each instructional program area by a count or CNT value equal to the number of program areas for which degrees were awarded by both the candidate institution and the University of Toronto.

One effect of the above calculation was to magnify to varying degrees: similarity based on comparable program offerings, similarity based on lack of program offerings, and dissimilarity based on different program offerings. In isolation, such an effect might have been desirable. The level of magnification was significantly high, however, even for institutions with many comparable program offerings based on the fact that a majority of the 50 instructional program areas are not offered by the AAUDE institutions, even at the bachelor degree level. For example, the University of Toronto awarded degrees in only 21 instructional program areas at the bachelor degree level, 22 program areas at the

masters level, 19 program areas at the doctoral level, and 2 program areas at the first professional level. These numbers represented the maximum CNT values, given that CNT was equal to the number of instructional program areas where degrees were awarded by both the candidate institution and the University of Toronto.

The principle, which was first adopted by the University of Kansas, of excluding instructional program areas from the CNT value where degrees were not awarded at the degree level in question by both the candidate institution and the University of Kansas, seems questionable. Although mission statements are rarely expressed in such a fashion, institutions may be as similar in terms of what they do (programs offered) as in terms of what they do not do (programs not offered, sometimes because of government regulation).

A detailed review of the comparison score and similarity score calculations revealed that a combination of instructional program areas from the CNT value where degrees were not awarded by both the candidate institution and the University of Toronto, the formula used by the Kansas Board of Regents to standardize the comparison scores, and the proposed weights for the degrees awarded selection variables had a strong arithmetic effect resulting in total similarity scores that created an impression that certain institutions were less similar to the University of Toronto than they in fact were. The CNT value therefore was changed to equal the number of instructional program areas where degrees were awarded at the respective degree level by both the candidate institution and the University of Toronto, plus the number of instructional program areas where degrees were not awarded by both the candidate institution and the University.

Standardizing Comparison Scores

The Kansas Board of Regents standardized the comparison score (c) for each selection variable using a formula $X = 50 + 10c$. That is, for presentation purposes the comparison scores were magnified by the formula over a broader range.

Although such standardization formula would not change any institution's relative position *vis-à-vis* the home institution for each of the selection variables under examination, the necessity of using the standardization formula, in particular any coefficient values of as large as 10, was questionable because it could result in total similarity scores that left an impression that institutions were less similar to one another than they in fact were. It was decided therefore to keep the standardization formula, but change it to $X = 10 + 5c$.

Classification of Degrees Awarded by Instructional Program Area

The AAUDE institutions report their degrees awarded information using the Classification of Instructional Programs (CIP) developed by the U.S. Department of Education's National Centre for Education Statistics (NCES). The CIP is used in all NCES surveys and is the accepted U.S. Government standard on programs for education information surveys.

The University of Toronto's degrees awarded information was mapped to fit the CIP scheme. The enclosed glossary (Appendix A) contains the definition of each degree level: bachelor, master, doctoral, and first professional. An important note: this was not difficult to do, nor was there any indication that it would have been difficult for other non-AAU institutions to do.

The Results: Four Slates of Peer Institutions

While there was a conceptual basis for identifying and seeking to calculate four separate slates of peer institutions, it could not be taken as given that the comparison scores, when calculated, would actually indicate statistically significant differences among institutions by slate. In other words, each slate might have comprised the same institutions in the same ranked order. That in turn could have meant that diversity among institutions and among post-secondary systems was a problematic concept to express by classification.

The results, however, were as anticipated: there were differences among the slates, as Table 5 indicates.

Table 5
University of Toronto
Peer Institution "Top-Ten" Results

BASE SLATE

Arizona
California, Berkeley
Illinois, Urbana-Champaign
Michigan
Minnesota
North Carolina, Chapel Hill
Ohio State
Rutgers
Texas, Austin
Washington

RESEARCH SLATE

Arizona
California, Berkeley
California, Los Angeles
Michigan
Minnesota
North Carolina, Chapel Hill
Ohio State
Rutgers
Texas, Austin
Washington

COMPENSATION SLATE

Arizona
 California, San Diego
 Florida
 Illinois, Urbana-Champaign
 Kansas
 Missouri
 Ohio State
 SUNY, Buffalo
 Texas, Austin
 Washington

ABILITY TO PAY SLATE

Arizona
 Illinois, Urbana-Champaign
 Michigan
 Michigan State
 Minnesota
 Missouri
 North Carolina, Chapel Hill
 Ohio State
 Texas, Austin
 Washington

At this point it is critically important to recognize the crucial role that the selection variable weights played in the analysis. Changes in the weighting resulted in changes in the similarity scores. The weights were the connection between the statistical dimension of the Hybrid Approach and its judgmental dimension. While this characteristic of the Hybrid Approach is not difficult to understand in theory, it is difficult to deploy in practice. The weights were in effect a missing link that solved this problem.

Although there were changes in the ordinal rankings, the overall "top-ten" results for the Base and Research slates differed by only one institution each. In a sense, there were two research slates, each with a different emphasis on research intensity. That is, the Base slate by itself is in some ways a research slate, given that it was selected from a pre-determined group of primarily public, primarily research universities. The Research slate was created by assigning higher weights to the graduate and first professional enrolment share, research expenditure, library, master degrees awarded, and doctoral degrees awarded selection variables.

While the Base and Research slates were very similar in terms of composition, they were less similar in terms of ranked order. This suggests that for the purposes of constructing groups of institutions for comparisons of diversity among systems the array of slates could be different from the array that an individual college or university might wish to deploy for the purposes of peer selection. The methodology, however, would otherwise be the same in both cases.

Four institutions - Arizona, Ohio State, Texas at Austin, Washington - were within the "top-ten" peer group for all four of the proposed slates of university peers. Four other institutions - Illinois at Urbana-Champaign, Michigan, Minnesota, and North Carolina at Chapel Hill - were "top-ten" peers for three of the four proposed slates.

That there was a fixed number - ten - in each group was arbitrary for validation and demonstration purposes. Final peer groups could have included a larger (or smaller) number of institutions, given that the differences in similarity scores between the tenth

and following institutions were not statistically great. In all cases, the raw data from which the similarity scores were generated were reviewed before final judgements were made about each of the proposed slates peers in order to determine whether the cut-off point should be moved lower or higher for each list of institutions sorted by similarity scores.

The ranges of comparison scores varied among the four slates from 1,347 to 1,287 in the "top ten" category and from 1,847 to 1,669 overall. A score of 1,000 represented a perfect match with the University of Toronto.

What Does the Case Study Tell Us About Peer Selection and Diversity?

Program cost structures can effect institutional cost structures to a large enough extent to be detected in rankings of similarity and dis-similarity and in turn in measurements of diversity.

"Program" is among the most problematic terms in the higher education lexicon, especially within the context of diversity. Sometimes the concept of program is expressed as levels of credential conferred: undergraduate, master's, doctorate (Birnbaum, 1983; Rawson, Hoyt, and Teeter, 1983; and Teeter and Christal, 1987). In other cases "program" means disciplines and fields of study; so for example physics is a program regardless of degree level (Huisman, 1998). And in other cases the mode of delivery is regarded as a "program" characteristic (Jones, 1996).

Any one or all of these understandings of what "program" connotes might reasonably be taken into account in measuring and expressing diversity. Most approaches use the first: "program" means degree offered. However, in constructing the peer selection methodology in the University of Toronto case study it became evident, particularly from the research slate, that the definition of program which made the most difference in terms of resources, was organizational. A faculty, school, or department was a "program."

On reflection, the organizational concept of program makes sense. Expenditures within post-secondary institutions are usually assigned to programs as organizations, that is, to faculties or departments. In some cases, revenue too is attributed to programs as organizations (Lang, 1999). Real program budgeting (PPBS) has been tried in higher education but with little success (Balderston and Weatherly, 1972).

Moreover, the single largest area of expense in higher education is salaries. That was a principal reason for the University of Toronto's decision to construct a separate compensation slate. When comparisons are based on compensation, two additional comparative factors come into play: the distribution of faculty by rank (Terenzini, Hartmark, Lorang, and Shirley, 1980) and the mix of programs (Simpson and Sperber, 1988). Both of these factors use the organizational idiom for program.

What this means for the selection of peers and the measurement of diversity is that the organizational definition of "program" is at least as important as the more commonly used degree-offered definition; and that, even when the objective is to compare diversity among systems of higher education, taxonomies and other classification schemes should begin at the program level and build up from there.

Of the four principal paradigms – resource dependence, natural selection, competition, social organization – it would appear that resource dependence is the more robust in measuring differences in diversity, whereas natural selection and social organization might provide better explanations of how diversity develops.

Although other applications of the Hybrid Approach have taken jurisdictional characteristics into account and weighted them (Rawson, Hoyt, and Teeter, 1983), none has sought to determine ability to pay except in terms of *per capita* income. But there is little evidence that *per capita* personal income determines public spending on higher education. There are some jurisdictions in which funding for colleges and universities is determined as a fixed share of either government revenue or government expenditure (Zideman and Albrecht, 1995). There are, however, numerous factors that come between *per capita* personal income and total government revenue and spending.

Among the more obvious intervening factors are funding formulas, subsidies to students, research and development policy and spending, rates of matriculation from secondary school, and other priorities for public spending. Even revenue from tuition fees, which would appear to be directly related to *per capita* personal income, is significantly determined by the distribution of personal incomes and the availability of subsidies to student (Lee, 1987).

The construction of the ability to pay slate indicated, first, that ability to pay is a powerful and independent factor in measuring institutional similarity and dis-similarity. Second, it indicated that the measurement of ability to pay depended more on the amount of general revenue available to a government for allocation, and on the policies and means by which general revenue is allocated, than on gross personal wealth.

There are significant differences among institutions which other commonly used categorization schemes fail to detect.

Consider the implications of the following observation made possible by the case study and in particular the use of separate slates of institutions for comparison: under either Carnegie Commission or AAUP classification scheme – the two most commonly used taxonomies – all of the institutions in the case study would have fallen into a single category, yet the case study statistically validated at least four different slates of institutions. One implication is that, because all of the institutions would have been located in a single category, they would be assumed to be identical for the purposes of comparison and of measuring diversity. But the variations among the slates indicate that

differences among institutions – for example, in salaries or in research intensity – do not “average out” and become statistically negligible.

Diversity is more than descriptive. The fact that four slates could be statistically validated suggests that for each policy objective for diversity there should be a separate comparison and formation of peer groups

Because there are real differences among otherwise putatively identical institutions which are more than statistical wrinkles that can be ironed out, systems of higher education, like individual institutions, should be more concerned about peer selection. While institutional size, degrees offered, and program mix will perhaps continue as the predominant expressions of diversity among systems of higher education, other expressions can have useful roles to play. For example, to the extent that resources determine quality, regardless of the types of institutions involved, ability to pay and compensation (which in turn involves the mix of disciplines and the mix of ranks) become vital factors for comparison. For another example, the organization and cost of research varies so considerably from disciplinary area to disciplinary area that diversity in research and advanced graduate study (as measured by the doctoral and doctoral stream master's programs and enrolment) cannot be adequately represented by existing taxonomies. If that proposition were not true the research slate in the case study would have been the same as the other slates.

The same methodology can support measurement of diversity as well as the selection of peers.

The range of variation among comparison scores overall was quite similar for three slates – Base, Research, and Compensation – and quite different for the fourth, Government Ability to Pay. In the “top ten” the range of variation between the Base and Research slates was minor but the Compensation and Government Ability to Pay slates were quite different from the Base and Research Slates, and from one another. Within each slate the range of variation was significant.

These results indicate two things. First, individual institutions need to take care in selecting peers. Intuitive, *ad hoc*, and aspirational selections are not reliable. Second, the commonly deployed categorization taxonomies mask differences that could be significant in comparisons of diversity among jurisdictions. For example, the Government Ability to Pay slate is the most different among the four slates. While all jurisdictions would wish to increase their public and private wealth, few would have much ability to control or force such an outcome. Thus differences in Government Ability to Pay are as unavoidable as they are significant. But neither observation would be fully apparent from the existing classification schemes.

Beyond Inter-Institutional Comparisons to Inter-Jurisdictional Comparisons: Where Does Ontario Stand?

Just as there is interest in selecting peers and making comparisons among colleges and universities there is interest in making comparisons among systems of higher education. The peer selection methodology could also apply to systems. Diversity could be represented by a desired range of comparison scores instead of by aggregations of institutional types. Like the University of Toronto in the case study, jurisdictions might wish to deploy the methodology with slates, and perhaps add new slates. For example, accessibility is largely a system concept. A slate that weighted more heavily the variety and capacity of degree programs that could be entered directly from secondary school might be of particular interest to some jurisdictions.

The Government Ability To Pay slate is particularly relevant to inter-jurisdictional comparisons. There are several ways of approaching ability to pay in an inter-jurisdictional context: tax wealth, fiscal capacity, tax ability, and Representative Tax Systems (RTS). For U.S. jurisdictions, the best source of data were the reports of the Advisory Committee on Intergovernmental Relations (ACIR, 1996). ACIR studies have been conducted since 1971. They are the sources of RTS calculations, which include tax capacity *per capita* and personal income *per capita* from which indices are then created, using a national average at 100 per cent. Comparable data are available for Canadian provinces, based on federal tax return data and Statistics Canada data.

Inter-jurisdictional comparisons pose a logistical problem in that the number of possible comparisons is very large. A number of relatively gross factors can be applied to sort jurisdictions initially:

- campuses per student, to take into account the dispersion or concentration of enrolment capacity
- at least one American Association of Universities institution, to take into account the "flagship" phenomenon
- at least one institution in each Carnegie category, to obviate the possibility of lopsided comparisons
- at least one health science centre and one veterinary medicine centre, to take into account anomalous cost structures
- binary system articulation between four-year and two-year institutions
- total system enrolment and total faculty complement, to ensure approximate similarities in economies of scale

- tuition fees at least 25 per cent of total institutional income
- participation rate as a percentage of age group at least 30 per cent
- special sources of revenue (for example, gambling and natural resource taxes) excluded

This initial filtration produced a relatively shorter list of possible peer jurisdictions to which the peer selection methodology could be applied.

The adjustment algorithm for Canadian and U.S. dollars (at 0.66 for the inter-institutional methodology) would pose problems for longitudinal comparisons, so another algorithm was introduced. The Organization for Economic Cooperation and Development, which makes many inter-jurisdictional comparisons in many fields, has devised a method of adjusting currencies for comparison called "purchasing power parity" (OECD, 1998). The Canadian to U.S. parities for the last five years were:

1993	Cdn	\$1.27/US\$1.00
1994		\$1.25
1995		\$1.23
1996		\$1.22
1997		\$1.21

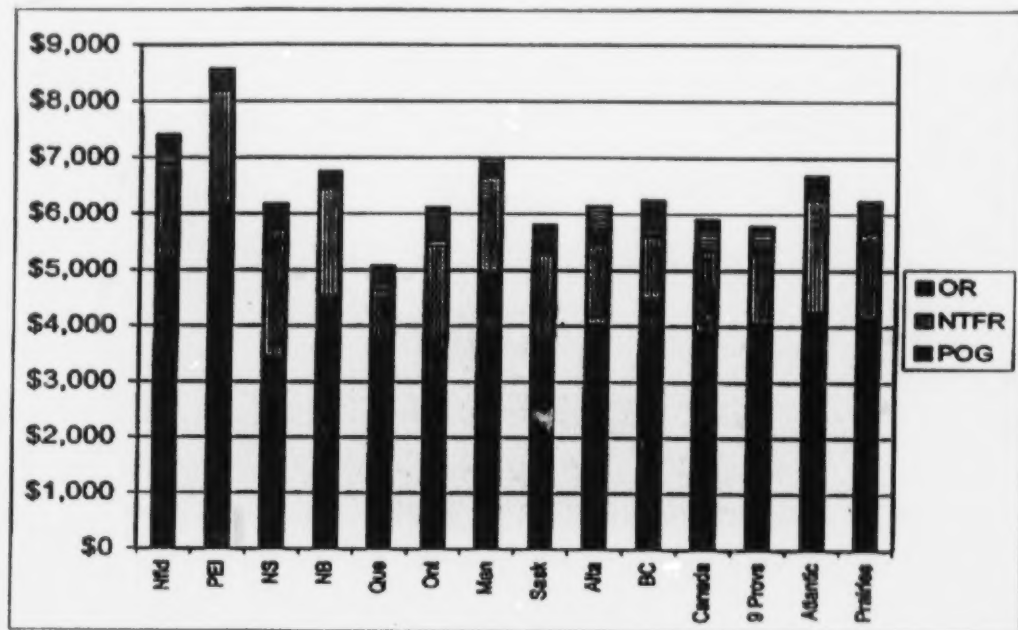
While the two algorithms for adjusting for the relative value of the Canadian dollar and the U.S. dollar produced somewhat different absolute results, they did not produce different results in terms of rankings of similarity.

The U.S. jurisdictions, on the basis of this methodology, most like Ontario were, in ranked order of similarity: North Carolina, Illinois, Pennsylvania, Michigan, Ohio, Virginia, and Florida. No Canadian jurisdiction came close; the most proximate was Quebec. The Council of Ontario Universities regularly compares Ontario to the American states that border the Great Lakes. In the past that array might have seemed either arbitrary or self-serving. But, on the basis of this analysis, those comparisons are to a very significant degree valid and reliable since they include Illinois, Pennsylvania, Michigan, and Ohio, which together constitute more than half of the slate of genuine peers.

The Council of Ontario Universities reported that Ontario's expenditure per full-time-equivalent university student in 1995-96 was \$15,605, compared to an average of \$23,176 (in Cdn\$) for 11 U.S. states (Council of Ontario Universities, 1999). Those states were: California, Florida, Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Texas, and Wisconsin. Five of those states – Illinois, Pennsylvania, Michigan, Ohio, and Florida – on the basis of this analysis were peers of Ontario. For those states the average expenditure per full-time-equivalent student was \$21,502 (in Cdn\$). By either measure Ontario is far behind its U.S. counterparts; but the second

measure can be analytically explained and justified, while the first might run the risk of being dismissed as self-serving.

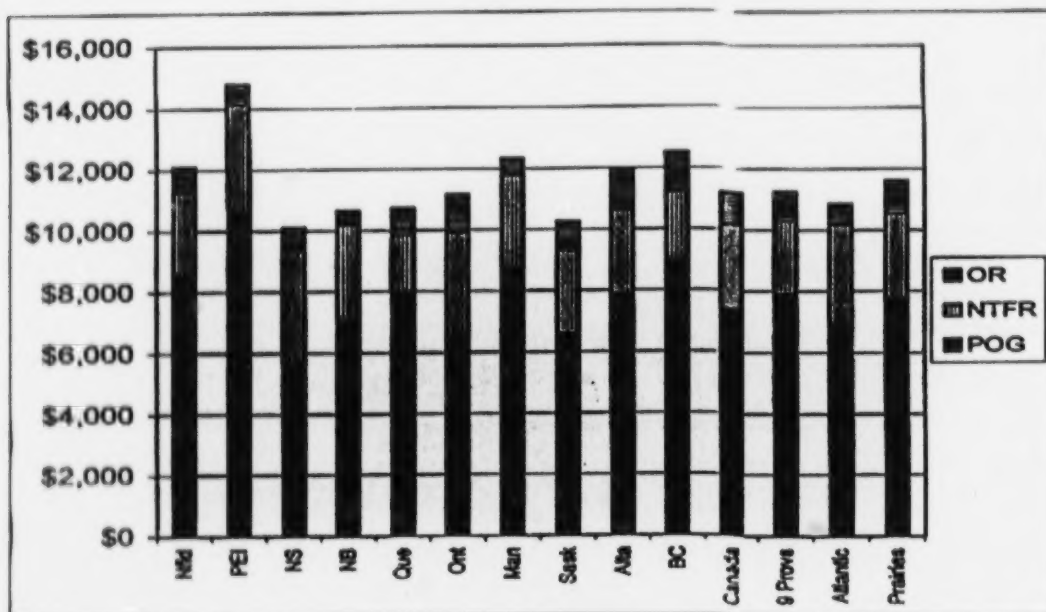
Figure 1: 1997-98 Revenue per Weighted FTE by Province



Legend OR Other Revenue
 NTFR Net Tuition Fee Revenue
 POG Provincial Operating Grants

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Figure 2: 1997-98 Revenue per FTE by Province



Legend OR Other Revenue
NTFR Net Tuition Fee Revenue
POG Provincial Operating Grants

Within Canada the comparison provinces as peers is problematic because the provinces are obviously different from one another by most of the factors in the peer selection methodology. By that methodology, only Quebec comes close to Ontario, but still is not as close as some American states. As the preceding figures that were prepared by the Council of Ontario Universities show, Ontario ranks ahead of only Nova Scotia in terms of provincial grants per full-time equivalent student among Canadian provinces. In terms of total revenue per full-time equivalent student – a calculation that takes tuition fees and other income into account – Ontario ranks somewhat better but is still in the bottom half of Canadian provinces by this measure. By both measures, Ontario ranks one place ahead of Quebec.

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FINDINGS AND IMPLICATIONS

This study was an attempt to examine and discuss university finance issues in Ontario within the broader context of higher education policy, and to present data on trends and, where possible, the impact of recent changes on Ontario universities. In some cases trends and differences between Ontario and other jurisdictions are evident. In other cases, while trends and differences might be beginning to emerge, firm and reliable conclusions were not possible.

Higher Education Policy

As in many other jurisdictions, higher education policy in Ontario has become increasingly viewed as a subset of provincial economic policy rather than a component of either social policy or broad educational policy. Under the last Liberal government (1985-1990), higher education policy became a key component in a broader strategy that emphasized the importance of human capital, the strengthening of the province's science and technology infrastructure (especially in areas identified as industrial priorities), and building partnerships between industry and universities. While the NDP government that followed placed a greater emphasis on equity and social mobility, the NDP also continued to build on the approaches to industrial and technological development that had been initiated under the previous coalition and Liberal majority governments. During the NDP tenure in office the province's universities were swept up in the Social Contract, which in the end resulted in a very significant loss in income from the province.

The first few years of the current Progressive Conservative government saw the initiation of broad economic reforms under the Common Sense Revolution, resulting in a major decrease in funding to postsecondary education; while the last two years have seen the development of policies designed to encourage institutions to increase the number of spaces associated with engineering and computer science programs and to stimulate research activity in these strategic areas.

For all three governments, major policy initiatives for higher education seem to have been mainly component parts of macro-level (in political terms, cabinet-level) approaches to economic development. In the case of the Liberal Government, for example, several new initiatives were associated with the Premier's Council. The view of higher education as a tool of economic development, with special emphasis on research in specific areas of applied science and technology, was consistent with policy initiatives in many other jurisdictions of all political stripes. There is a strong presumption that this strategy has succeeded, but relatively little research has been designed to explore its actual outcomes.

Other aspects of higher education policy development in Ontario appear to be distinctive, especially the limited capacity or organizational responsibility for policy development associated with the government ministry responsible for post-secondary education, and the absence of a systematic approach to higher education policy. The

Ministry of Training, Colleges, and Universities (and its predecessors) largely plays a reactive role in the policy development process and focuses primarily on the nuances of policy related to the allocation of available resources. Aside from reacting to concerns articulated by the executive heads of Ontario universities, and, less frequently, the concerns articulated by groups representing faculty and students, the ministry plays a very limited role in terms of developing policy related to Ontario universities. Seen from another perspective, these circumstances could be construed as reflecting a comparatively high level of government and public confidence in university governing boards and the autonomy that they represent. Seen from yet another perspective, higher education may be a sector of the public economy in which the government believes, first, that it has created a market through diminished regulation of fees and, second, that market behaviour thus engendered should govern.

It is also important to note that there is little evidence of anything that might be termed a *systems* perspective in Ontario higher education policy. The general approach, with one notable exception, has been to treat Ontario's universities and colleges of applied arts and technology as distinct sectors with different objectives and different funding mechanisms. The exception is tuition fees and student aid, for which policy has been highly symmetrical. Even within these two sectors there is little evidence of policy designed to treat institutions as component parts of a network of complementary institutions. Within the Ministry, policy development has tended to focus on one sector or the other. The conclusion that there is no Ontario higher education system as the term "system" is understood in other jurisdictions is not new; it has been raised in a number of government reports and research articles, but there is little indication that the government is taking steps even to consider higher education policy in terms of a system. The Progressive Conservative government's Advisory Panel on Future Directions for Postsecondary Education concluded that it would be useful to create an ongoing advisory body that would adopt a systems perspective to the analysis of higher education in Ontario. The government did not respond to this recommendation, nor did previous Ontario governments that received similar advice.

Tuition Fees, Accessibility And Quality

Tuition fees have been increasing across the Canada – indeed in most parts of the world - with rather dramatic increases in Ontario in the 1990s. Ontario tuition fees are now among the highest in the country. While all university tuition fees have increased, it is important to note that recent government policies have essentially divided academic programs into two fee categories. One category of academic programs continues to have fee levels that are regulated by government. For the second category, institutions now have much greater discretion in terms of establishing the tuition fee level.

This approach to tuition fees in Ontario has been commonly referred to as "partial deregulation" but it is important to note that in many respects the approach involves not a deregulation but a *re-regulation* of fees. Under this approach, the government assumed responsibility for determining which academic programs now fall into which of the two categories described above. The government has also introduced additional requirements

and accountability mechanisms for those programs for which institutions have and use additional discretion to determine fee levels. Institutions must now devote a component part of increased fee revenues to student assistance and report on these expenditures to government. The results have been: a significant difference in fees by program, a commensurate increase in spending on student financial aid, an increased role for government in determining the status of academic programs and in determining how institutions will spend revenues associated with certain tuition fee increases, and a change in the balance of responsibilities for student assistance, with universities now playing a larger role.

The most dramatic changes in tuition fees occurred only in the last few years and there are few data available on the impact of these changes. This study's analyses have focused on two types of data that were viewed as potentially contributing to preliminary measurement of the impact of these changes. On the one hand, the analyses suggest that while there does not seem to be a strong and direct relationship between tuition levels and graduation rates, whatever relationship there might be seems to be positive: rates of graduation (and, implicitly, retention) have been rising as tuition fees rise. There may in turn be a decline in default rates on student loans as graduation rates rise (Ministry of Training, Colleges, and Universities, 2000).

On the other hand, there is an indication, at least based on a longitudinal analyses of admission surveys, that some students are increasingly interested in attending a university close to home, and that the academic reputation of a university is decreasing in importance in terms of influencing a student's choice of program and university. While additional research is required in order to confirm this finding, one possible implication is that, as the cost of attending universities increases, students perceive themselves as having less choice in that they must consider attending the university located in their local community. In other words, rather than creating something like a market in higher education, high tuition fees may actually be reducing the degree of student choice.

Regardless of the jurisdiction, when tuition fees are increased a fundamental policy question is raised. Was the increase aimed at increasing capacity and accessibility – as it was in Australia – or was it aimed at maintaining and, possibly, improving quality? This is neither an insignificant nor a technical query (Hansen and Stamper, 1987). What is the answer to that question in Ontario? From 1987-1988 to 1992-1993, income from tuition fees increased slightly while government operating grants decreased in almost the same proportion. In other words, grant income plus fee income per full-time-equivalent student was steady throughout that period; the maximum variation was \$93 (less than one percent) in constant dollars (Council of Ontario Universities, 1999). From 1994 to 1998 there was a more significant downward trend, as grants were reduced at a rate greater than the rate at which income from tuition fees increased. In 1996-97, the sum of revenue from grants and revenue from fees per full-time-equivalent student had fallen to \$9,839 (in constant dollars), which was its lowest point in a decade. The ratio started to climb again in 1997-1998, and by 1998-99 had reached \$10,663 (in constant dollars), which was \$41 below the comparable figure for 1987-1988.

The answer to the question, therefore, seems to be that over the entire period, which encompasses three different governments, increases in tuition fees have been deployed more to maintain quality than to increase capacity. If it had been otherwise, the sum of grant plus fee revenue per full-time-equivalent student would have declined (even if total sum went up). That clearly seems to have been the case for the first half of the last decade. The pattern in the second half of the decade is less clear. Were it not for the upturn in 1998-99, the centre of gravity might have appeared to be shifting towards allowing quality to fall in order to maintain or expand capacity. Given the forecasts of major increases in the demand for access due to the "double cohort" and demographic growth (Price, Waterhouse, Coopers, 1999), this choice between accessibility and quality will be the most important policy question for higher education in Ontario as it enters the next century.

This question is more complex than an *either-or* choice. It has several dimensions, involving particularly the substitution of fees and other income for grants. First, other income, especially income from the sale of services and from fund-raising, might not be a reliable alternative source of funding. The net operating gain from the sale of services may in fact be quite low, and may be buoyed by temporarily strong economies. The growth in revenue from gifts in the 1990s might also be a product of concomitant economic growth during the same period, and to a large and certain extent was induced by government matching programs. Moreover, much of the growth in gift revenue was earmarked by government regulation, which meant that gift revenue was not really available as a substitute for operating grants.

Second, no one knows yet what the effects of increases in tuition fees to current levels will be. As revenue from fees begins to cover a larger portion of the cost of higher education, fees will begin to act more like real prices, and in turn will make fees as prices more elastic. At that point the difference between raising fees to improve or at least maintain the quality of programs, and raising them to expand access, will become very apparent to students and parents. Fees that are increased to expand access may appear to students and parents to be more like taxes than fees because the direct benefits to individuals will be problematic. This is a possibility that the Australians clearly recognized when they introduced tuition fees to fund expansion; the HECS program was fundamentally and openly linked to personal income taxes. Alberta, too, in capping the share of total revenue to higher education to which tuition fees may contribute, may be recognizing the policy distinction between funding accessibility and funding quality. Although Ontario has not introduced a comparable cap, the fact that the government is discussing one may indicate a concern for the same policy distinction.

Privatization

There is a "Which came first, the chicken or the egg?" dimension to university finance in Ontario, perhaps in Canada at large. Setting overall levels of funding aside, the constituent slices of the funding pie have changed significantly in relative size. That the tuition fee slice is larger and the government grant slice smaller might concern many but should surprise no one. In Ontario, operating grants from government as a percentage of

total university income began to decline in 1988-89, and declined in every year since then, apparently regardless of the government that was in office. The third slice, however, other income, has also grown sharply. With that growth has come some concerns about the role of universities *vis-à-vis* the private sector. Notably, each of the last three governments has promoted stronger university-industry relations, as have the last two federal governments. So this development appears to be non-partisan and non-ideological. The "chicken or the egg" part of the issue is whether the expansion of activity in the areas represented by "other income" was the result of economic policies that promoted such growth or was the product of necessity forced by reductions in government funding. The reasonable, albeit speculative, answer is that both factors played roles.

There is a third possibility: the rapid growth in income from other sources began abruptly in 1993. For the previous five years (1988-1992), other income had shown relatively little fluctuation as a percentage of total revenue (Council of Ontario Universities, 1999). The expansion of income from other sources, then, coincided very closely with economic growth. This applies to the growth in other income from donations and gifts as well as to the growth in research contracts and the sale of university services. The question that follows is whether or not these levels of income can be sustained during an economic downturn or even in a period of no or lower economic growth. A similar question can be asked about the effects of economic growth or the lack thereof on the price elasticity of tuition fees.

The increased dependence on other income, particularly that portion that involves the sale of university services, has caused some concern about the "privatization" of higher education in Ontario. There is little evidence that privatization, as it is understood in other jurisdictions, is occurring in Ontario. One should keep in mind, however, that, given the amorphous character of the organization of higher education in Ontario, and the relatively high degree of institutional autonomy, universities in Ontario are already somewhat detached from the formal public sector. The regulations that define the dividing line between public and private in this sense are found in *The Degree Granting Act*.

Other than a few brief and rather cryptic references to privatization in the mandate of the Advisory Panel on Future Directions for Post-secondary Education (the Smith Panel) the current Progressive Conservative government has not been clear about its policy motives regarding institutional authority to grant degrees. The government's initial references to privatization through reform of *The Degree Granting Act* were, perhaps only coincidentally, prescient. The government was concerned about an excess of demand over capacity. This, notably, was before the reorganization of secondary education led to concern about a "double-cohort" that will be caused by the reduction of the secondary school program from five years to four. (Whether or not the cohort will be literally doubled is problematic.)

At that time, the position of the province's universities, through the Council of Ontario Universities (COU), was that a new approach to tuition fee policy and student aid

would enable publicly-assisted and regulated universities to respond promptly and responsibly to increased demand. A new fee policy was put in place. Whether or not a new student aid policy is in place is debatable. OSAP is different, but it has not been replaced by an income-contingent loan repayment program, as was promised by the government and recommended by the Council of Ontario Universities. So, in terms of the government's original reason for speculating about privatization, the efficacy of the principal alternative – ways and means of expanding the capacity of the existing publicly-assisted institutions – has not been fully tested.

The Access to Opportunities Program (ATOP), although of relatively small financial scale, might be an instructive harbinger of larger policy. In terms of regulation it is representative of highly prescriptive central planning, instead of reliance on market behaviour. There has been no public indication that the government considered changing *The Degree Granting Act* as a means of increasing the province's output of graduates in the programs and fields targeted by ATOP. Thus, when confronted with a need to expand capacity in specific areas, the government resorted to more regulation, not fewer, and apparently did not consider either the private sector (except as a source of matching funds) or other jurisdictions.

By observing other jurisdictions – New Zealand, Australia, the U.K. – the government may have concluded that privatization does not necessarily lead to market behaviour, and that market behaviour does not necessarily lead to an array of programs and program capacities that coincides with certain policy objectives, like ATOP. Whether or not the government actually reached this conclusion, it is a point to be kept in mind in appraising privatization as a policy option for higher education.

Indeed, the term "privatization" seems to be being used in Ontario in at least two quite different ways. On the one hand, it sometimes is understood to mean a transformation of publicly-assisted programs to self-funded programs: self-funded in the sense that they meet all of their costs through fees and are not reported for formula funding. To the extent that these programs are successful – and they are at several universities – they are by definition responding to demand; otherwise they would not meet the self-funding test.

But, on the other hand, "privatization" in the government's view also includes the establishment and recognition of new institutions under *The Degree Granting Act*. Moreover these institutions would be established, in the first instance, not to encourage a freer market for higher education, but to solve an accessibility problem in the public higher education sector. Institutions founded for that purpose would then have a public policy purpose and standing, even if they were private. Given the connection to accessibility as public policy, it might not be "privatization" at all, but instead an extension of public policy to include private or unregulated institutions.

Nor are there any particular reasons to believe that such institutions would meet other policy objectives. The costs to students would almost certainly be higher than comparable costs in publicly-assisted universities. The costs of student assistance funded

and guaranteed by the government would probably be higher; they would certainly not be lower. Existing proprietary institutions have high OSAP default rates, but it is hard to imagine that the government could deny access to student aid programs to institutions established with a public accessibility policy in mind.

For whatever reasons the government might allow the establishment of new private institutions, quality and comparable standards would, presumably, have to be ensured in some way. During the course of 1988, the Ontario Council on University Affairs prepared an Advisory Memorandum for the Minister of Colleges and Universities on the "Policy Statement which Guides the Evaluation of Application for Ministerial Consent Pursuant to the Degree Granting Act." The central element in the OCUA's advice was a recommendation about what the Council called "The Appropriate Standard", which was:

that the standards which should be met by all non-Canadian institutions proposing to offer degree programs in Ontario should be comparable to the academic standards in publicly funded Ontario degree-granting institutions.

Because that advice was not followed, two sets of standards evolved: one for publicly funded universities in Ontario, and one for universities from outside the province which offer degree programs in the province, and by implication for new private institutions within the province. There were as well two processes for setting policy: the COU and OCUA provided advice to the Minister on publicly-funded universities in Ontario, while the Ministry itself looked after universities from outside the province. With the discontinuation of the OCUA, the government itself now performs the role previously performed by the OCUA.

While one can understand differences in points of view about how the OCUA's "Appropriate Standard" could have been applied to private institutions, it is difficult to imagine a sound reason for not having applied it, or some equivalent, at all. Gresham's Law is instructive here: bad degrees will drive out good ones. Moreover, they plant the seeds of a serious degree-recognition problem that may rise when degrees of a lower quality are presented as credentials for admissions to advanced programs in publicly-funded institutions. Most students will assume that a degree approved under *The Degree Granting Act* in Ontario will be recognized by publicly-assisted institutions in Ontario.

It would be one thing to allow and encourage new private institutions in order to allow a comparable alternative to publicly-assisted universities. It would, however, be another thing to permit lower quality, unaccountable institutions in the name of accessibility. If one were to come to the conclusion that private institutions should be introduced in order to provide accessibility, one would more or less automatically deploy "the Appropriate Standard" that the OCUA previously recommended, and would, in addition, propose:

- that the private institutions meet the costs of applying that standard

- that they not have access to OSAP unless they meet that standard
- that they make a provision for student assistance at least equivalent to the OSAP reinvestment scheme that was introduced in 1996-97, and perhaps higher, since private institutions have default rates above those for publicly-assisted institutions.

Instead, the government might concentrate on ways and means of enabling Ontario's public universities to meet the policy objectives of education in the province that otherwise would be attributed to new private institutions. Although the government has made no clear or firm commitments in response to the forecast increase in demand for access to higher education in the province, discussion of the double-cohort that may arise from the reorganization of the secondary school curriculum so far contemplates a more or less conventional response: more funding, more space, and more instructional technology for publicly-assisted institutions.

While of little apparent interest to the Progressive Conservative government at the end of its first mandate, there is another quite different public policy objective that privatization is sometimes invoked to serve - diversification and differentiation. The last four provincial governments in Ontario have talked in various ways about universities and colleges being more "specialized," which seems to have meant to most governments something like the opposite of redundant or duplicative. In other words, the idea has been about costs, economy, and efficiency.

But in other jurisdictions a mixed environment is encouraged in order to engender diversity and increase the options available to students. These jurisdictions take a quite different view of standards, and usually do not insist that private institutions meet the same standards as publicly assisted institutions, nor do they draw fine distinctions between profit and not-for-profit institutions. These jurisdictions rely heavily on third-party accreditation. They also tend to favour vouchers or other highly portable student aid schemes to equalize student choice. So far in Ontario this reason for considering privatization has not been put forward by government. Governments in Ontario, for their part, have used highly targeted funding incentives to encourage specialization, for example, in bilingual education, in services to students with disabilities, and most recently through ATOP in certain science and technology fields. Universities in Ontario, on their part and with very few exceptions, have discouraged discussions of greater institutional specialization. Perhaps the government and the universities both suspect, not without reason, that competition driven by privatization might lead to stagnation and "look alike" competition instead of to greater specialization (Schumpeter 1942; Heilbroner, 1992) or at least to specialization that fails to fill unwanted gaps in the current array of higher educational programs and services.

There may be two or three harbingers of the direction in which the Progressive Conservative government might go in its second mandate in regard to private institutions and *The Degree Granting Act*. Late in 1999 the Minister of Training, Colleges, and Universities allowed Redeemer College, a private religious institution, to award secular baccalaureate degrees in Arts and Science. No financial commitments were attached to

this allowance of degree-granting status, nor was any sought. Sometime in 2000 the minister will commission a review of the Ontario College of Art and Design for the purpose of determining whether or not OCAD may offer a certain fine art and design program at the baccalaureate level. Unlike Redeemer College, OCAD is publicly-funded, and is seeking additional funding as part of the change in degree-granting status.

It is in their similarities that these cases are indicative of government policy. First, in both cases the focus is a specific program, instead of the entire institution. Second, the criteria used in the reviews of the programs are explicitly linked to standards and practices that obtain in existing Canadian and Ontarian universities. This does not suggest that the government is disposed to regard privatization as a selling off or transfer of public assets to the private sector. Nor does it suggest that the government has in mind creating and using a free market to define the scale, capacity, and shape of a nominal university system. The more likely indication is that the government wishes to regard higher education as a public good within a publicly controlled market to which certain institutions – private, sectarian, sub-baccalaureate – may have access program-by-program, but not institutionally. Access will be tightly controlled, using standards that apply in the public university sector; in other words private and non-university institutions that enter the sector will have to behave like public universities.

The third possible harbinger of future direction is the allocation from the province's SuperBuild capital fund to post-secondary education. Approximately \$1.3 billion of the fund is earmarked to colleges and universities, mainly to respond to demands for growth, both generally and in areas that the government judged to be of economic importance. One half of each dollar allocated through the SuperBuild fund has to be raised by the recipient institutions, either as charitable fund-raising or through partnerships with business and industry. Thus the \$1.3 billion translates into \$660 million in public spending.

The allocations from the SuperBuild fund suggest three aspects of future government policy. First, the scale of the allocation and the announcements that have surrounded it indicate that the government expects public colleges and universities to accommodate the entire expansion of student demand. None of the demand is being shifted to private and as yet largely non-existent private institutions. Second, the allocation of the fund has not been either "across-the-board" or formulary. The Minister of Training, Colleges, and Universities, in announcing the allocations, emphasized that the allocations to individual institutions had been made on the basis of where students preferred to attend. This suggests that the government believes that its policy on tuition fees has created a market, and that student preference is reflected in that market. Third, one of the principal criteria that was used in selecting projects for support from the SuperBuild fund was collaboration between institutions, primarily between colleges and universities. By dollar value, thirty-three per cent of the projects initially funded were for projects that involved collaboration between colleges and universities. Thus, instead of looking to the private sector to provide variety, economy, and efficiency in post-secondary education, the government appears to be trying to achieve the same results by spending in ways that encourage restructuring of existing public institutions.

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APPENDIX A

GLOSSARY FOR PEER SELECTION METHODOLOGY

Research Universities I

Offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. Annually receive at least \$33.5 million in federal support for research and development and award at least 50 Ph.D. degrees each year.

Research Universities II

Offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. Annually receive between \$12.5 million and \$33.5 million in federal support for research and development and award at least 50 Ph.D. degrees each year.

Bachelor's Degree

An award that normally requires at least 4, but not more than 5 years of full-time equivalent college-level work. Includes all bachelor's degrees awarded in a cooperative or work-study plan or program. Includes bachelor's degrees in which the normal 4 years of work is completed in 3 years.

Classification of Instructional Programs (CIP)

The U.S. Department of Education's National Center for Education Statistics (NCES) publication that classifies instructional programs by standard terminology for curriculum and instruction in local and State school systems and postsecondary institutions.

Current Fund Expenditures And Transfers

Costs incurred for goods and services used in the conduct of the institution's operations. Includes the acquisition cost of capital assets, such as equipment and library books, to the extent that current funds are budgeted for and used by operating departments for such purposes. Excludes non-mandatory transfers.

Current Fund Revenues

Unrestricted gifts, grants, and other resources earned during the reporting period, and restricted resources to the extent that such funds were expended for current operating purposes. Excludes restricted current funds received but not expended.

Doctor's Degree

An award that requires work at the graduate level and terminates in a doctor's degree.

First Professional Degree

An award that requires completion of a program that meets all of the following criteria: 1) completion of the academic requirements to begin practice in the profession; 2) at least 2 years of college work before entrance to the program; and, 3) a total of at least 6

academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself.

First-professional degrees may be awarded in the following 10 fields: Chiropractic (D.C. or D.C.M.), Dentistry (D.D.S. or D.M.D.), Medicine (M.D.), Optometry (O.D.), Osteopathic Medicine (D.O.), Pharmacy (D.Pharm.), Podiatry (Pod.D. or D.P.), Veterinary Medicine (D.V.M.), Law (L.L.B., J.D.), Theology (M.Div. or M.H.L. or B.D.)

Instructional Expenditures

Expenditures of the colleges, schools, departments, and other instructional divisions of the institution, and expenditures for departmental research and public service that are not separately budgeted. Includes expenditures for credit and non-credit activities. Excludes expenditures for academic administration where the primary function is administration (for example, faculties). Includes general academic instruction, occupational and vocational instruction, special session instruction, community education, preparatory and adult basic education, and remedial and tutorial instruction conducted by the teaching faculty for the institution's students.

Library Materials Expenditures

The sum of expenditures for:

- monographic volumes, including volumes paid for in advance but not received during the fiscal year, and monographs in series and continuations;
- current serials, including periodicals;
- other library materials. For example, microforms, backfiles of serials, charts and maps, audiovisual materials, manuscripts, electronic media, *et cetera*.
- miscellaneous materials expenditures. For example, expenditures for bibliographic utilities, literature searching, security devices, memberships for the purposes of publications, *et cetera*.

Library Volume(s)

A physical unit of any printed, typewritten, handwritten, mimeographed, or processed work, contained in one binding or portfolio, hardbound or paperbound, which has been cataloged, classified, and made ready for use. Includes duplicates and bound volumes of periodicals. Excludes microforms, maps, nonprint materials, and uncataloged items. Excludes government document volumes unless they are cataloged, classified, and shelved as part of the general collection. For the purposes of the ARL questionnaire, unclassified bound serials arranged in alphabetical order are considered classified.

Note: Complete definitions for library variables were found in American National Standard for Library and Information Sciences and Related Publishing Practices - Library Statistics. Z39.7-1983 (New York, American National Standards Institute, 1983); these are also known as ANSI Z39.7-1983 definitions

Mandatory Transfers

Those transfers that must be made to fulfill a binding legal obligation of the institution. Includes mandatory debt-service provisions relating to academic and administrative buildings, including (1) amounts set aside for debt retirement and interest, and (2) required provisions for renewal and replacements to the extent not financed from other sources. Includes the institutional matching or other contributions to federal, state, and provincial student aid programs when the source of funds is current revenues.

Master's Degree

An award that requires the successful completion of a program of study of at least the full-time-equivalent of 1 but not more than 2 academic years of work beyond the bachelor's degree.

Non-Mandatory Transfers

Those transfers from current funds to other fund groups made at the discretion of the governing board to serve a variety of objectives, such as additions to loan funds, quasi-endowment funds, general or specific plant additions, voluntary renewals and replacement of plant, and prepayments on debt principal.

Research Expenditures

Funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution

Restricted Funds Revenues

Those funds available for financing operations but which are limited by donors and other external agencies to specific purposes, programs, departments, or schools. Externally imposed restrictions are to be contrasted with internal designations imposed by the governing board on unrestricted funds.

Tuition and Fees Revenues

Charges assessed against students for educational purposed. Includes tuition and fee remissions or exemptions even though there is no intention of collecting from the student. Includes those fees that are remitted to the state/province as an offset to the state or provincial appropriations. Excludes charges for room, board, and other services rendered by auxiliary enterprises.



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